An Address

ON

EXPLORATION OF THE INGUINAL CANAL, WITH SPECIAL REFERENCE TO LIPOMA OF THE CORD, INGUINAL VARIX, CONGENITAL HYDROCELE, AND RETAINED TESTIS.

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BY C. B. LOCKWOOD, F.R.C.S. ENG.,

ASSISTANT SURGEON AND LECTURER ON ANATOMY, ST. BARTHOLOMEW'S HOSPITAL; SURGEON TO THE GREAT NORTHERN CENTRAL HOSPITAL, ETC.

MR. PRESIDENT AND GENTLEMEN,—Having opened the inguinal canal 180 times it may be easily understood that certain unexpected contents have been encountered. I propose to begin by describing cases in which fatty tumours were found instead of the hernial sac which was supposed to be there. These lipomata are not infrequently mistaken for ruptures and are sometimes treated with trusses. For instance, a postman was declined for promotion until he had had double inguinal ruptures cured. On the right side I found the sac of an incomplete inguinal hernia with some varix of the spermatic veins. On the left side he had an impulse on coughing and a swelling which could be reduced into the abdomen. This was also thought to be an incomplete hernia, but when the inguinal canal was opened a lipoma of the cord with varix of the spermatic veins was found, but no hernial sac. The fat and the veins were excised. For some years this man had worn a double inguinal truss; two years after the operation his right side was perfect; on the left side, where he had had the lipoma, he had occasional pain in the testis, but nothing whatever to account for its existence. Another youth was operated upon, having been rejected for the army because he had a hernial impulse in both inguinal canals. When the inguinal canals were opened I found a small hernial sac in the left and a small lipoma in the right. Eight months afterwards he was quite well. Yet another man had radical cure of hernia performed on each side to enable him to remain in the army. Unlike the other two he had hernial sacs on both sides together with a rather large lipoma in the left. He returned to the army after he had been operated upon. In one of my earlier cases I omitted to remove a fair amount of fat from the inguinal canal of a youth who was operated upon for a left inguinal epiplocele. On reflection this omission caused me much regret. It is obvious that its removal would have involved no danger whatever, whereas its presence would interfere with the valvular closure of the inguinal canal.

Here I will for a moment digress to remark that so far as my own observation goes the mechanism of the inguinal canal is not at all well understood. I confess that I did not myself at all appreciate it until during the course of my operations I had had many opportunities of seeing it in action. If during the operation for the radical cure of hernia a young and vigorous adult coughs, vomits, or struggles when the inguinal canal is open, it is easy to see how the arching fibres of the internal oblique and transversalis muscles descend upon the spermatic cord and squeeze it against Poupart's ligament. The spermatic cord itself is clearly the bar to the complete closure of the canal, and much more so would be a mass of fat or a bunch of dilated veins, or a hernial sac of any kind. The exact relation of these fatty tumours to the causation of hernia is, I believe, unknown. They are often situated at the lowest end of the sac, and it seems reasonable to suppose that by distending the inguinal canal they facilitate the descent of a hernia. As regards their origin there can be little doubt but that they are merely pieces of sub-peritoneal fat which have descended with the testicle. This can easily be seen occurring in any male fœtus at about the ninth month. The not infrequent occurrence of these lipomata seems to me to render it highly desirable to open and explore the inguinal canal when performing the operation for the radical cure of hernia. It is probable that, as a rule, they can only be diagnosed by an operation, and until this has been done the patient is under the impression that he has a rupture, and may perhaps, as in the cases I have mentioned, be in danger of losing an appointment. All of my cases occurred in adults. I have not yet seen a lipoma of the cord in a child apart from hernia. But whilst helping a colleague to operate upon a little boy both a hernial sac and a lipoma were found in the inguinal canal. The lipoma was large enough to form at least a medium-sized bubonocele.

I have already referred to the fact that in some of the foregoing cases of lipoma of the cord the veins of the spermatic cord were also varicose. I now propose to refer to some cases in which the dilatation of the spermatic veins within the inguinal canal was so great as to simulate a hernia. It is easy to understand why this is so when it is known that the varix or varicocele gives rise to a swelling which appears when the patient stands up, disappears when he lies down, and has an impulse on coughing, and which, moreover, causes a pain which closely resembles that of a hernia. Moreover, a scrotal varicocele is nearly always absent, so that it is very hard indeed to tell the inguinal varix from an incomplete hernia. One day I began to operate upon a youth, as was thought for the cure of double inguinal hernia. The right canal contained nothing but a group of enormously dilated spermatic veins exactly like a large scrotal varicocele; the left contained a similar group together with a small empty hernial sac. These veins were excised and the sac was treated in the usual way. I regret to say that this proved to be one of the very few cases of radical cure which have caused me any anxiety. On the third day I found this youth blanched, with a rapid pulse and distended abdomen. As there was much induration about the left inguinal region together with a swelling in the iliac fossa I explored the wound. A huge blood clot was removed from the iliac fossa, and more blood was found in the peritoneal cavity. This intra-peritoneal hæmorrhage was drawn off with a glass drainage-tube above the pubes. The source of the hæmorrhage was not discovered. He made a complete recovery after an anxious illness. The right side healed by first intention, and the left was packed with antiseptic gauze. This is the only case of mine which has been complicated with hæmorrhage, but how far it was related to the varicose veins I do not know. It is quite possible, and not improbable, that I had transfixed one of the deep sub-epigastric veins in passing the sutures. In another case an inguinal varicocele was found under the following circumstances. A youth, aged twenty-one years, who wanted to enlist, had a small reducible hernia of the right side; it was painful and difficult to manage. Upon the left side he had a decided impulse and a bulging of the inguinal canal. We could not, however, satisfy ourselves that he had a rupture there, and the question was discussed as to whether an operation ought to be performed on that side. I decided, however, to explore the canal, first because it is, in my opinion, such a harmless proceeding, and next because I feared to overlook a hernial sac or lipoma or varicocele. On the right side, where we had diagnosed a small reducible hernia a hernial sac was found together with considerable varix of the spermatic veins. As soon as the left inguinal canal was opened a huge bunch of varicose veins bulged out. They looked exactly like a big varicocele in the wrong place. It was quite obvious that they were actually distending the inguinal canal. No hernial sac was discovered. The veins were clamped above and below; excised, and the ends tied with a Staffordshire knot. The patient made an uneventful recovery. Now it is quite clear that had this canal not been opened our doubt would have continued, he might have been rejected for the army, and someone might ultimately have ordered a truss. In another case an inguinal varix was met with in the right inguinal canal of a young man. When he coughed or strained, the inguinal canal being open, the veins swelled up and bulged in an extraordinary manner. It is not unlikely but that varix of the veins of the cord may by distending the inguinal canal and preventing its valve action have some relationship to the causation of inguinal hernia. For instance, another youth was operated upon for the cure of a right epiplocele; a large varix of the cord was likewise found, and whenever he coughed or strained during the operation the veins filled with blood and became so huge that they seemed well calculated not only to distend the inguinal canal but also to prevent its closure during the

muscular contraction. Varix of the cord was treated in all cases by tying the veins close to the peritoneum above and outside the external abdominal ring below, cutting away the intervening portion. Whenever possible the ligatures were made to transfix the pedicle lest they should slip off. Care was also taken to leave one or two of the healthier-looking veins in order to provide for the return of blood. This operation is performed through the usual inguinal incision made half an inch above, and parallel to, the inner half of Poupart's ligament. It is usually about three inches long. So far no case of atrophy of the testis has been met with in the cases in which these varicose veins have been taken away, nor has the operation ever caused orchitis. Inasmuch as some of the more conservative school of surgeons apply trusses to all who complain of pain about the inguinal canal accompanied with impulse, it is clear that a good many individuals are going about wearing trusses upon inguinal varicoceles or upon fatty tumours of the cord. Perhaps I should add that in women the veins of the round ligament of the uterus are sometimes enlarged in a similar way and may bulge the inguinal canal so as to simulate a hernia.

Having been at special pains to watch the after progress of cases in which the inguinal canal has been opened I do not remember to have met with one in which the aponeurosis of the external oblique muscle has failed to unite again. Indeed a little consideration leads one to suppose that such a failure is not very likely to occur. The aponeurotic fibres are arranged parallel to each other, so that whenever they are pulled upon they merely tend to approximate. In the operation they are split and pulled apart and on no account cut across. Hence it is that I do not hesitate myself to explore the inguinal canal under circumstances in which it has hitherto not been the custom among surgeons to do so, and unhesitatingly follow the spermatic cord into it in case of tubercle of the testicle or of malignant disease. Hitherto very little attention has been given to the subject of inguinal varix or varicocele. I myself should have been unconscious of the existence of such a disease had I not seen it whilst operating. During life an inguinal varix or varicocele is almost certain to be mistaken for a small incomplete inguinal hernia, and after death the veins would, of course, be empty and not at all likely to attract attention. The cases of inguinal varix do not seem to me to be quite alike. In some the veins of the spermatic cord are merely dilated and more conspicuous than usual. Their walls are thin so that the blood shows easily through, and they adhere closely to the cord and its coverings, and to the hernial sac when one exists; also, although they fill the inguinal canal they do not seem so inclined to crowd out when the aponeurosis of the external oblique is cut. Indeed, their presence is not always very obvious until the later stages of the operation of radical cure, when the sac is being taken away and separated from the cord. But in other cases of inguinal varix more than a mere dilatation of the veins of the spermatic cord and of its coverings is in question. The varicose veins have the closest resemblance to a scrotal varicocele. They push forward in a bunch as soon as the inguinal canal is opened. They are easy to separate and have hypertrophied walls, through which the colour of the blood is not easily seen. It is this last variety which so closely simulates an incomplete inguinal hernia. It is possible that this inguinal varicocele differs in one respect from scrotal varicocele in being found about as often upon the right side as upon the left. However, a great deal more information is needed upon this point.

I now propose to refer to another condition in which I have explored the inguinal canal with interesting results. I always look upon congenital hydrocele of the cord in boys with some suspicion, and now unhesitatingly explore the inguinal canal when curing the hydrocele. A youth, twelve years of age, had a considerable hydrocele, which was opened through a small incision in the upper part of the scrotum; the cyst did not communicate with either the tunica vaginalis or with the abdomen. The cord itself felt very hard, but a probe could only be pushed up it for three-quarters of an inch along a little canal which led from the inside of the hydrocele, but when the inguinal canal was explored a large hernial sac was found. There was no evidence whatever of its presence, but the patient said he thought he had worn a truss when an infant. Doubtless some would have looked upon this as a case cured by a truss, but I have long since arrived at the conclusion that oftentimes such a cure is more apparent than real; not a few suddenly relapse, an event which is easily explained when we consider such cases as that which I have just described. Another youth came with a small tense hydrocele of the cord; it was above the tunica vaginalis and just outside the external abdominal ring. He stated that at times another protrusion appeared above the hydrocele. After a few days in bed the hydrocele disappeared. At the operation its sac was opened and found to have a long and narrow tube leading into the abdomen. The inguinal canal was opened and this tube dissected out and its base transfixed and tied with No. 3 or No. 4 twisted silk close to its junction with the peritoneum. Then if the sac is quite slender the silk is divided and the stump allowed to spring back behind the muscular fibres of the internal oblique and transversalis abdominis muscles. Should the peritoneal canal be large and resemble a hernial sac it is fixed beneath the transversalis muscle and fascia by carrying the ends of the ligatures which transfix and encircle the stump through the abdominal wall at a point above and external to the centre of Poupart's ligament. As a rule in these cases it is unnecessary to put any stitches in the back of the inguinal canal. It is only requisite to suture the aponeurosis of the external oblique muscle with interrupted sutures of fine silk, and so close up the canal again, and finally suture the skin incision.

In addition to these cases which I have just described I have operated upon several others of encysted hydrocele of the cord in which a peritoneal canal was found running up the inguinal canal towards the abdomen. It is obvious that had such peritoneal canals or sacs as those which I have just described been left behind in the inguinal canal they would have been in all probability a continual source of danger to the patient. When the intestine descends suddenly into such sacs the symptoms of strangulation are of the most acute and dangerous kind. I have twice at least seen this acutely strangulated intestine become gangrenous within a comparatively short period of time. In one of those cases I was so fortunate as to have a recovery after the removal of the gangrenous intestine with subsequent enterorrhaphy.

Of late years I have treated all cases of encysted hydrocele of the cord by an open incision. In some the hydrocele can be drawn up through the usual incision parallel to the inner half of Poupart's ligament, the scrotum being left untouched. This procedure has the advantage of leaving a wound which is more easy to dress and to which a certain amount of pressure can be applied. Sometimes, however, it is necessary to carry the incision from the inguinal region into the upper part of the scrotum. Then the wound becomes more difficult to dress, and as no real pressure can be applied to it the surgeon should be prepared to put a drainage tube into the scrotal part for the first twenty-four hours to let out any blood. I generally use a scrotal dressing which has an additional prolongation to cover the inguinal region.

I now propose to refer to exploration of the inguinal canal in certain cases of retained testis. About 15 per cent. of the cases of inguinal hernia on which I have operated have been complicated with retained testis. As is well known, the testicle may be arrested during its transition either in the abdomen, in the inguinal canal, or after its exit from the inguinal canal. It is more particularly with the two latter positions that we are at present concerned. It is generally assumed that the exact position of the retained testicle can be easily diagnosed during life, but the results of operations have led me to think that mistakes must not infrequently occur. For instance, a patient was operated upon in whom we all thought that the testicle lay in the inguinal canal, and apparently covered by loose and stretched aponeurosis of the external oblique. When the organ was pressed upon it slipped away from the finger and apparently disappeared within the abdomen. When, however, an incision was made the testicle was not found in the inguinal canal, but lying in a sac upon the aponeurosis of the external oblique exactly over the inguinal canal. This sac had no communication whatever with the abdominal cavity, and the external abdominal ring itself was so small that it was obvious that the testicle could not have entered the inguinal canal, much less the abdomen. Cases in which the testicle has emerged from the inguinal canal and then turned back again to mount upwards upon the aponeurosis of the external oblique are not infrequent, and are particularly favourable, owing to the length of the spermatic cord, for the transplantation of the testicle into its proper place—viz., the scrotum. But when this has been done the question at once arises as to whether the inguinal canal should be let alone

or explored. That the latter is the proper procedure is exemplified by the case I have just mentioned. When the aponeurosis of the external oblique was cut through a small hernial sac was found communicating with the abdomen by rather a wide mouth. It is obvious that had this been overlooked the patient might at some time after the operation been obliged to burden himself with a truss or have a second operation performed for the cure of the rupture. It also leads one to reflect upon those cases of retained testis and hernia in which, as is commonly done, a truss is applied upon the retained testis, which, as is usually said, is supposed "to take care of itself." It seems unscientific and irrational to attribute so much intelligence to an organ like the testicle and to expect it to undertake duties which ought to be performed by the surgeon. When the testicle lies in the inguinal canal it is of course necessary to open the canal to approach the organ, but even here the question of a further operation arises, because unless the upper part of the inguinal canal is carefully explored by a free division of the fibres of the external oblique aponeurosis the hernial sac or a long serous canal may be easily overlooked. In the case of a man both of whose testicles were retained in the inguinal canal I found on the left side that the organ lay in a capacious sac which did not communicate with the abdominal cavity, but a careful search in the inguinal canal behind the upper end of the testicular sac brought to light another sac which communicated with the abdominal cavity and was exactly like the sac of an infantile hernia. In other cases, as I have just said, the testicular sac communicates with the abdomen by a long, slender canal, which might easily be overlooked unless it was diligently searched for with a probe or by exploring the highest part of the inguinal canal. Although it has no direct bearing upon the question of the propriety or otherwise of exploring the inguinal canal, nevertheless, I may, perhaps, be permitted to remark that much remains to be learned concerning the after-progress of cases in which retained testes have been transplanted into the scrotum. It is now well known that these undescended organs do not, so long as they remain in the inguinal canal or in the abdomen, attain their proper development. So far as I can learn no one has yet seen spermatozoa in undescended testes. Whether this applies also to cases in which the organ has left the inguinal canal and then turned back again so as to lie in the aponeurosis of the external oblique I do not know, but in four or five cases of this kind upon which I have myself operated the testicle has certainly appeared larger than those in which it had not left the canal. By this time there must be a good number of cases in which these undescended testes have been transplanted into the scrotum and some of my hearers may meet with them. It is to be hoped that opportunity will be seized of ascertaining as far as possible the condition of the transplanted organs. I have seen at least ten cases at periods varying from six months to two years after the operation. This much seems to be clear, first, that the testis remains in the scrotum, or if it should ascend at all it is sufficiently low down to be quite out of the way of a truss; second, that the organ does not undergo any further diminution in size; third, that, in one case not only has it not diminished but both myself and the patient are of opinion that it is larger than when it was at first transplanted (if this be true it is a very encouraging circumstance); and fourth, although a matter of less importance, nevertheless it is worthy of note that the patients themselves are extremely gratified to find that the organ has been preserved, and when they know this can be done are much more anxious to have an operation performed. To recapitulate, it is clear that without the exploration of the inguinal canal surgeons who may claim to possess ordinary powers of diagnosis may mistake a lipoma for a hernia, varix of the spermatic veins for a hernia, or may overlook peritoneal canals or actual hernial sacs. These are some of the considerations which have led me gradually to abandon operations for the radical cure of hernia in which the interior of the inguinal canal is not clearly seen; moreover, as I have already explained, these are the conditions which have led me to explore the inguinal canal with greater freedom than has hitherto been the custom.

In conclusion, perhaps I ought to say that such operations as these would not be advisable unless the operator takes every pains to attain asepsis. I need hardly detail the precautions which, in my opinion, ought to be taken, but they include the disinfection by heat of all instruments and materials, the thorough disinfection of the skin both of the surgeon and of his assistant and of the patient, and finally the application of a suitable dressing. In conclusion, I will hand you the outside dressing which we find most efficacious and most comfortable in the treatment of these inguinal and scrotal wounds.[1]

A CASE OF PYLORIC STENOSIS TREATED FIRST BY LORETA'S OPERATION AND AFTERWARDS BY POSTERIOR GASTRO-ENTEROSTOMY (DOYEN).

BY JOHN W. TAYLOR, F.R.C.S. ENG.,
SURGEON TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN, ETC.

BEFORE narrating the case which is the subject of my paper I should like to draw attention to the fresh knowledge which has invariably been the outcome of surgical effort. Every department of medical science has profited more or less by the surgical interference which has been so much a feature of modern practice. It has undoubtedly been the operative treatment of diseases of the uterus and its appendages, of the liver and gall-bladder, of the kidneys and of the brain, which has opened up to all of us much of our present heritage of facts—facts on which we act—facts which form the foundation of a more successful practice. The region of the stomach will, I think, prove no exception to this general experience. So long as the stomach remained unexplored during life men seemed content to accept the diagrams of their anatomical text-books, and not a few of us to-day may perhaps still regard the stomach as a

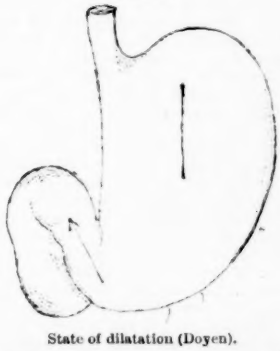
FIG. 1.

State of vacuity.

FIG. 2.

State of moderate repletion.

FIG. 3.



State of dilatation (Doyen).

[1] This scrotal dressing was described in THE LANCET of Oct. 19th, 1895, p. 970.

musculo-membranous sac, the long axis of which lies across the upper part of the abdomen. Clinical examination has often tended to perpetuate this idea. The distended transverse colon, closely applied to the stomach, has been unwittingly accepted as a part of it, and careful palpation and percussion have tended to confirm the error, or attention has been confined to dilated and abnormal conditions of the stomach, and what was altogether pathological has been accepted as differing but slightly from the normal position and relations.

Dr. Doyen, of Rheims, in his work on the Surgical Treatment of Diseases of the Stomach[1] has done much to elucidate and explain these points, and I have reproduced a few of his illustrations because it seems to me that a better appreciation of the normal position of the stomach is necessary before we can begin to understand any of its pathology. The long axis of the normal stomach is very nearly vertical, and when empty the pylorus should be its most dependent part (Fig. 1). The latter should lie only very slightly to the right of the middle line, and the pyloric end of the stomach, the entrance to the pylorus or "antre du pylore" of the French, should be exactly central. A rough generalisation which I have ventured to make at once places the salient features of this normal position clearly before the mind—the alimentary tract from the mouth to immediately above the pylorus is nearly direct, broadly vertical, and almost central. There is a dilatation or pouch on the left side formed by the greater curvature of the stomach, but the tract itself is practically direct from the pharynx to the pylorus. This may be seen very well in the first frozen section plates in Braune's Topographical Anatomy; it may often be verified by careful clinical examination and, to some extent at least, by personal experiment. The act of swallowing anything very hot or very cold may sometimes be experimentally followed by corresponding sensation from the mouth to the pylorus. The central position of the sensation throughout, although not absolutely prohibitive, perhaps, of another direction, forms strong presumptive evidence of the truth of this contention. It is mainly because of this that the lesser curvature and pylorus are immediately affected by irritating foods and caustics and become so frequently the seat of ulceration and disease, while the greater curvature, which used to be regarded as the immediate receptacle of food, escapes. The recognition of this appears to me to throw considerable light on all gastric and pyloric disease; it makes so much that was formerly difficult to understand reasonable and clear that I may be pardoned, I think, for having insisted on its importance before proceeding to the consideration of the case I have to report.

A single man, aged thirty-three years, was sent to me in July, 1894, by Dr. Bernays, of Solihull. The patient had been complaining for four or five years of gastric trouble. Attacks of pain and acid vomiting, lasting for a week or so, had occurred at intervals of some months' duration until the latter part of 1893. At this time the pain increased and occurred daily. The pain was felt in the pit of the stomach, a little above the umbilicus and in the back, and was worse three hours after taking food. About three times a week (towards 2 or 3 o'clock in the morning) he vomited four or five pints of brownish acid fluid which became frothy on standing. After this had continued for some eight weeks he became a patient at the Queen's Hospital, under the care of Dr. Foxwell, who diagnosed the case as one of dilatation of the stomach, and, I believe, admitted him into his wards as an in-patient. During his stay here the patient was treated by washing out of the stomach, and from this he derived very considerable benefit. On leaving the hospital he had increased in weight 2 lb., and being a very intelligent patient he was able to continue the washing out of the stomach himself. For a time the improvement continued and appeared to be very materially assisted by a course of medicine and dieting ordered for the patient by Dr. Bernays, who now had charge of the case. The improvement, however, did not last, and before I saw the patient he had been rapidly getting worse. He had to use the stomach tube twice a day in order to get any relief from pain, and had lost 20 lb. in weight during the month preceding my consultation. Latterly Dr. Bernays had ordered nutrient enemata, as very little or nothing appeared to be retained by the stomach. Dr. Bernays sent the patient to me, hoping that something further might be done by surgical means. When I saw the patient on July 20th I found him very emaciated and weak. His rectum was nearly empty in spite of marked and continued constipation. His pulse was quick and rather feeble (108), and palpation and percussion of the abdomen showed very decided signs of dilatation of the stomach, the stomach resonance being increased in all directions and splashing marked on gentle bimanual examination. No tumour could be felt nor could I find evidence of any other disease. A week later (July 28th) I operated. I opened the abdomen in the middle line between the ensiform cartilage and the umbilicus. The stomach was dilated and appeared immediately under the incision, the vessels along the greater curvature looking large and injected. At the pyloric end of the stomach there was very considerable thickening of its walls. In this situation the thickening was "patchy," and wherever it was found it was noticed that the peritoneal coat looked whiter and rather lacking in lustre. Further down, at the pylorus itself, the thickening was general and there appeared to be some folding adhesions of the peritoneal coat. On taking up a fold of the stomach wall over the thickened region the increased substance between the fingers—amounting to several lines—was very perceptible, but nowhere did it amount to anything that could be termed a tumour, and the change appeared to be partly fibrous, very largely inflammatory, and not malignant. I opened the stomach just above the pylorus. The latter seemed to be quite occluded save for a dimple in the mucous membrane which would barely admit a uterine sound. I gradually dilated the pylorus with Sloan's dilators, at first with considerable difficulty. Then it suddenly gave (I believe by the opening out of external fold adhesions, as no rupture could be found), and from this point the dilatation proceeded rapidly until I could pass my forefinger through the pylorus. The mucous membrane of the stomach, pylorus, and duodenum felt healthy. I could find no evidence of ulceration, old or recent, and the changes already noticed appeared to be confined to the serous and subserous tissues. No definite ring of constriction was found at the pylorus, but rather a tubular narrowing for some distance, and a pyloroplastic operation which I had had some intention of performing I found to be hardly applicable to my case. I dilated the pylorus still further by means of Goodell's strong dilator, with parallel blades, until I judged that the limit of safe distension had been reached. In this case the operative dilatation of the pylorus was not carried so far as in some of the reported cases. I could not pass two fingers through the pylorus, but could easily pass the index finger beyond the second knuckle. On bi-digital examination from within and without the intestine it seemed to me that any further stretching must result in rupture; indeed, at this stage something occurred which felt like a little crack in the posterior wall, and I judged it best to desist from any more manipulation. I closed the wound in the stomach with a continuous Lembert suture—that is, a running suture passed in exactly the same way as an interrupted Lembert suture. I have always used this for any intestinal work and am quite satisfied with it. I began the suture a little beyond one end of the incision and after uniting the sides of the incision (taking up serous and muscular coats only) continued it for a similar distance beyond the other end. I then returned, using the same thread, by a similar suture above the first one, and finished the operation by tying the ends of the silk together. The abdominal incision was closed with silkworm gut. The operation lasted an hour. Before I began the patient had himself washed out his stomach, and there was very little leakage from the stomach wound. The latter was carefully guarded by the fingers of my assistant, Mr. Jordan. The patient was fed by nutrient enemata or nutrient suppositories until Aug. 2nd—that is, for five days. After this milk and gruel were given by the mouth, and by Aug. 12th the patient was allowed a very fair dietary of egg, fish, brown bread, and cocoa, in addition to the milk. He left the nursing home on Aug. 16th, his weight being 8 st. 6 lb., or 1 lb. less than at my first consultation.

I have weekly records of his weight since this date, and with but few exceptions there has been a slow and steady increase. The last weight recorded (Feb. 26th, 1895) is 10 st. 6 lb. or almost exactly 2 stones heavier than at the time of operation. With this increase of weight there has been a corresponding improvement in other respects. The patient is much stronger and able to do some work; his appetite is good, and although occasionally subject to some indigestion and

[1] Traitement Chirurgical des Affections de l'Estomac et du Duodenum. Par le Dr. E. Doyen, de Reims. Paris: Rueff et Cie., 1897.

gastric pain he has never had to use the stomach tube since the operation, and has only been sick about six times since he left the hospital. On examination I think it may be said that although there is marked improvement some signs of dilatation still remain, and on palpation a certain amount of splashing is still usually present. Whether the maximum of improvement has been attained is very doubtful, considering that the highest point of weight was touched so recently. The very gradual and steady change for the better, extending over seven months now, seems certainly ground for hope that the improvement may still continue.

Remarks.—A case of non-malignant stricture of the pylorus, verified during life, affords a special opportunity for study, and I have tried to find, if possible, what cause or causes may have led to the condition found. The patient had always lived in the country, and his usual occupation was that of a gardener or farm labourer. He came of a fairly healthy stock and had no vices. He had no history pointing to any gastric ulcer in the past, no acute history, either of hæmatemesis or otherwise, previously to this closure of the pylorus. He had never been intemperate, had rarely taken spirits, and when he had these had always been diluted. He had never chewed tobacco, but had been a great smoker. So far the history seemed to be an innocent one. But he had always had the character of being a very quick eater—of finishing his meals before other people; and this, when the fare was rough, and but little or no rest could be taken after food, might perhaps be an etiological factor of some importance. The more recent Continental writers (Reichmann and A. Robin) appear to trace this form of pyloric contraction to a hypersthenic dyspepsia in which there is a definite increased secretion of hydrochloric acid, and I notice that Doyen constantly refers to this "hyperchlorhydrie" or "maladie de Reichmann" as a cause of simple pyloric stenosis. Ewald, although treating this hyper-secretion of gastric juice as a functional neurosis only, remarks that "the irritation excited by the acid fluid leads to troubles having the appearance of the symptoms of a chronic inflammatory condition," and, further, "in consequence of this condition atony of the muscular coat and dilatation of the stomach may occur; this is so common in cases of long standing that out of thirty cases in Reigel's wards in twenty-nine there was more or less distinct dilatation."[2] That the acid vomiting so frequently met with from the earliest stages of gastric dilatation is not entirely due to acids of decomposition, but to a true hyper-secretion of acid appears to be now well established, and contraction of the pylorus is very frequently associated with long-continued hyper-secretion of hydrochloric acid, but the chain of cause and effect, if it exist at all, has not as yet been made out, and it appears to me that there must either be a pre-dyspeptic stage which starts the hyper-secretion, or some contemporaneous cause coöperates with the acidity in producing so marked a local manifestation and lesion.

In the case described above the local disease was marked and definite—a peri-pyloric inflammation not dependent on ulcer or extraneous causes, involving the pyloric end of the stomach only and causing local thickening and adhesions. In the history the rapid eating or bolting of the food was the only discoverable cause of irritation. Is it not possible that coarse and imperfectly masticated food passing (more directly than has been supposed) into the pyloric end of the stomach may irritate and at once be seized by the closing action of the pyloric region and for a time at least be kept from participating in those rhythmic movements of the stomach which facilitate digestion? This would excite an increased secretion of hydrochloric acid which, at first intermittent, would gradually become chronic; irritable fissures would easily occur in the neighbourhood of the pylorus, and in this way it is easy to understand how a chronic inflammatory process might arise that would gradually lead to pyloric contraction and finally to closure.

I feel that my own knowledge of the literature of the subject is too imperfect and my experience too small to warrant anything but a tentative suggestion as to the primary causation of non-ulcerative pyloric stenosis. I cannot but believe that so local a disease must have a local cause, and if the history I have been able to elicit is only of value on the negative side of the problem it may still help to clear the ground for further work.

Three operations have been proposed and employed for the treatment of non-malignant stricture of the pylorus—pyloroplasty, Loreta's operation of digital dilatation, and gastro-enterostomy. Pyloroplasty is specially applicable to a sharp, annular constriction, and consists of a longitudinal incision through the stricture followed by transverse suture of the wound. In suitable cases it seems to be an exceedingly neat and useful operation. When the site of constriction is almost linear the operation is an ideal one and should be followed, if successful, by a permanent result. But the field for its use is, I think, much more restricted than many have supposed, and in my own case I had to choose between dilatation or gastro-enterostomy.

Dr. Doyen, whose experience of the latter operation has been remarkably extensive and successful (twenty-one cases with five deaths), has practically given up both pyloroplasty and Loreta's operation in favour of his own method of gastro-enterostomy, and it may be that with increased experience of gastric surgery other surgeons will tend to follow his example. I certainly think his method of operating is much superior to the plans which have hitherto been used, and I would employ Doyen's operation in preference to any other for an early case of cancer of the pylorus.

The objection which has been felt to Loreta's operation and which runs through all the theoretical literature of the subject is the danger of relapse. But theory must be tested by experiment, and after considerable search I cannot find any clear record of relapse in the cases which have been published. On the contrary, there is considerable evidence to show that at intervals varying from several months to one or even two years the benefit obtained by Loreta's operation has been thoroughly maintained. The first two cases operated on by the late Professor Loreta were said to be doing well by Dr. Guido Pedrazzoli ten months after the date of operation.[3] Mr. Hagyard's case was reported as perfectly well nearly two years after operation,[4] and Mr. Treves's case, operated on on Dec. 3rd, 1887, was quite well in December, 1888.[5]

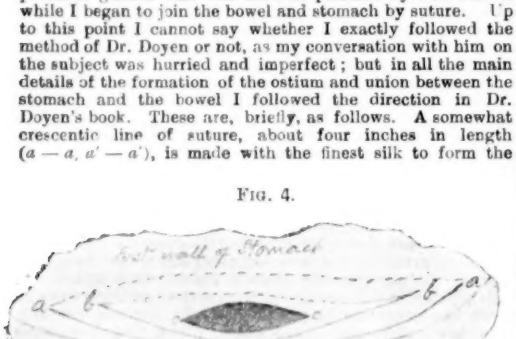
Sequel.—The foregoing account was written in 1895, and the improvement then recorded was maintained during the whole of that year. Early in 1896 symptoms of relapse first showed themselves. Pain and vomiting again set in and the patient again lost weight. I did not see him until May, 1896, his weight then being 9st 5lb. By washing out the stomach once a day he managed to keep about this level for some months, but as all the old symptoms returned—decomposition of the gastric contents, periodical vomiting, and nocturnal pain—it was evident that something more was needed, and I accordingly suggested the formation of a new pylorus towards the most dependent part of the stomach as likely to give fuller and more permanent relief. My intention at this time was to operate by the method of anterior gastro-enterostomy recommended by Dr. Doyen in his book on the surgery of the stomach; but on talking over the matter with Dr. Doyen, both at Rheims and in London, I found that he had practically given up the anterior method, and in his more recent gastro-enterostomies had united the jejunum to the posterior wall of the stomach. His main reason for this change was, if I understood him correctly, that in some of his cases where he had united the first part of the jejunum to the anterior wall of a much-dilated stomach on the lying down of the patient the (dilated) posterior wall "sagged" or pouched into a depending cavity in which the food still collected, decomposing and causing continued gastric trouble, although in every other respect the operation was satisfactory. The objection seemed to me to be a reasonable one, and as I knew that my patient's stomach was much dilated, and found that on the cadaver it seemed to be almost as easy to use one wall as another for the site of anastomosis, I did not hesitate to choose posterior gastro-enterostomy as the better operation. I did this for my patient on Sept. 12th, 1896. I reopened the abdomen in the line of the old incision and found the pylorus and pyloric end of the stomach so universally involved in firm adhesions that I did not trouble to disturb them in order to examine more minutely into the present condition of the pylorus. Pushing up the stomach and great omentum, I passed my fingers deeply into the abdomen, felt for the ligament of Trietz, which marks the end of the duodenum, and immediately pulled up the first part of the jejunum. In the mesentery of this, nearly to its fixed extremity, I passed a double thread

[2] Ewald: Dr. Saundby's Translation, vol. ii, p. 607.

[3] THE LANCET, Aug. 4th, 1883, p. 213.
[4] Brit. Med. Jour., vol. i., 1889, p. 1105.
[5] Ibid., vol. i., 1889, p. 1106.

of silk for future identification of the loop of jejunum. Then, dropping this into the abdomen, I drew out the great omentum, which in this patient showed no sign of the transverse colon on its anterior aspect. This was held up for me by my assistant, Mr. Jordan, and tearing a hole in its under layer anterior to the transverse colon I came at once on the posterior wall of the stomach. This and the loop of jejunum to which the silk had been attached were now drawn outside the wound, all other exposed abdominal contents were replaced, and the loop of jejunum being disposed from left to right in easy relation to the posterior gastric wall was held in position by Mr. Jordan while I began to join the bowel and stomach by suture. Up to this point I cannot say whether I exactly followed the method of Dr. Doyen or not, as my conversation with him on the subject was hurried and imperfect; but in all the main details of the formation of the ostium and union between the stomach and the bowel I followed the direction in Dr. Doyen's book. These are, briefly, as follows. A somewhat crescentic line of suture, about four inches in length ($a - a$, $a' - a'$), is made with the finest silk to form the

FIG. 4.



Diagrammatic sketch of posterior wall of stomach and jejunum, showing lines of sutures and openings into both viscera.

deepest, or highest, line of union between the convexity of the bowel and wall of the stomach; within, and more or less parallel with this, a second line of suture, about three inches long, is carried ($b - b$, $b' - b'$), the two together forming a broad concave band of union between the two organs. In the hollow of this concavity the openings, about one inch long, are made into the stomach and jejunum, the incisions being united to each other by a very fine continuous circular suture through all the coats, the end being tied to the end when the union is completed so that one fine silk thread unites the whole of the circle without a break ($c - c$, $c' - c'$). While this is being done the stomach and bowel are temporarily clamped to avoid unnecessary soiling of the wound. As soon as the circular suture of the anastomosis or "ostium" is completed the clamps are removed and any stomach contents are allowed to pass into the small intestine by the new opening. (At this stage the junction between the stomach and the bowel is formed by the union of a pouting mouth or ostium on both sides, so that from above it looks as if both viscera were joined by a short intestinal tube.) If the union appears to be quite satisfactory the parts are carefully cleansed, and the circular suture is buried or closed in by a somewhat curved line of suture uniting the ends of the second concave line of suture ($b \ldots b$, $b' \ldots b'$), and finally, by a similar suture joining the ends of the first line of suture ($a \ldots a$, $a' \ldots a'$). In doing this by simply carrying the suture of the jejunum relatively wider on the gastric or upper side a valve or spur may be formed which, while causing no obstruction to the passage of the glandular excretions, prevents any back flow from the stomach. The gastro-intestinal opening is now not only formed and protected all round by an immediate circular suture, but there are two complete (crescentic) rings of suture outside this. The anastomosis is complete, and after replacing the parts within the abdomen and closing the abdominal incision the patient is put back to bed.

The operation lasted about two hours. Beyond the tediousness of it, and the profound anæsthesia induced, from which the patient did not recover for three hours afterwards, the operation does not call for any special notice. From the date of it all vomiting ceased and has not since recurred. I only allowed the patient to have a little milk by the mouth for the first three days, and so long as solid food was denied him he complained somewhat bitterly of pain and restlessness. As soon as he was permitted to take solid food the pain disappeared and his recovery was rapid and uninterrupted. He has regained his usual weight and has remained in excellent health ever since. On inquiry of his medical attendant, Dr. Bernays, I find that he remains to the present day, "perfectly well and is able to eat anything" (Oct. 19th, 1897). The last time I saw him I was interested to notice that there was less evidence of any dilatation of the stomach than at any period since I had known him, and it appeared to me that the organ was recovering, to some extent at least, its normal size and elasticity.

Birmingham.

VITALITY.[1]

BY LIONEL S. BEALE, M.B., F.R.C.P. LOND., F.R.S.,
EMERITUS PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE IN KING'S COLLEGE, LONDON, AND CONSULTING PHYSICIAN TO THE HOSPITAL; GOVERNMENT MEDICAL REFEREE FOR ENGLAND.

IX.—THE INTERSTITIAL CIRCULATION IN ALL LIVING BEINGS (*continued*).

WHETHER the interstitial fluid which circulates in the bioplasm and in the various tissues is derived from the circulating fluid within the organism, as in man and the higher animals, or from the surrounding medium, as in the case of the lowest organisms, the distribution is never equable in all parts of the organism at the same time. In man and the higher animals the supply will be affected by the variation from time to time in the calibre of the vessels which distribute it to the part, and will vary according to the periods of repose and activity. The change in the calibre of the arterioles is effected by a marvellous arrangement which acts automatically. Thus the varying local blood-supply is mainly dependent upon the varying degree of contraction of the muscular fibres encircling the vessels, which is determined by changes in the nerve current effected in the nerve centres, from which the nerves distributed to the arteries emanate. I have done my best to describe and illustrate the arrangement, which is of great interest, in previous memoirs and works.[2]

The bioplasm of those tissues and organs which are necessary to the life of the organism from moment to moment requires a larger proportion of nutrient matter in a given time than the living matter of those which are not constantly in a highly active state. Of the rest some have pretty regular periods of activity and rest, but at all ages the parts which are undergoing renovation are supplied, not only with plenty of interstitial fluid, but very free interchange and admixture of the currents of fluid takes place, so that neither the nutrient matters nor the products of disintegration should form a strong solution. In any given tissue of an animal at different ages there is what may be called a normal rate of vital action of any particular form of bioplasm, and a normal rate at which the conversion of a portion of the bioplasm into formed material takes place, as well as a normal rate at which the interstitial fluid flows to and from the bioplasm. But normal activity varies within certain limits in different organisms and at different ages, and in the same organism at different times under different conditions and in different parts. Living too quickly or too slowly tends to be detrimental, whether the departure from the normal rate affects a minute amount of bioplasm or that of a considerable part or the whole of an organism. A slight departure, however, in either direction from the normal may

[1] Nos. I., II., III., IV., V., VI., VII., and VIII. were published in THE LANCET of Feb. 22nd, April 11th, June 13th, Aug. 29th, Oct. 17th, 1896, Jan. 23rd, July 31st, and Sept. 4th, 1897, respectively.

[2] Bioplasm, p. 328.

occur without detriment. Indeed, throughout all living nature these several processes are permitted to vary within moderate range and may be automatically corrected, but neither can proceed far from the normal standard of change without derangement or actual damage; and if the divergence persists for longer than a short period of time serious structural and other events follow. Physiological may soon be replaced by pathological phenomena. *The too rapid growth and multiplication of the bioplasts, the too quick production of formed material*, are serious departures from the healthy state, and are changes which as it were lie at the root of many morbid processes. Health as well as longevity seems to depend upon the steady maintenance of the normal changes in the bioplasm of certain parts of the organism at the several periods of life.

Should the interstitial fluid become too concentrated, as it does in some departures from the normal state, it might flow too slowly through the tissues for normal nutrition; or by the undue accumulation in it of matters which ought to be quickly removed there is danger of the deposition of certain substances in the tissue, in which case the action of the latter may be seriously interfered with or checked. In some cases the fluid accumulates interstitially to an extent sufficient to cause visible swelling of the tissues in the neighbourhood, and the increased amount of too rapid growth is followed by multiplication of the bioplasts. This undue accumulation of interstitial fluid is not confined to textures near capillary vessels, but occurs also in those which are separated from the capillaries by a considerable thickness of tissue, as in some forms of cartilage and in many epithelial textures. The change in question may occur very rapidly, but may be followed by the deposit of lymph and the formation of fibres, in which case a considerable time must elapse before the fluid poured out is completely reabsorbed and the deposited matter dissolved so that the tissue may regain its normal state. Indeed, to effect this it is necessary that the interstitial fluid should be in a state of dilution for a long period of time.

The importance of the free interchange of the interstitial fluid and the thorough and continued admixture of its constituents cannot be over-rated, and by the great number, constant movement, excessive minuteness, and varied direction of each little stream this admixture is in the normal condition undoubtedly ensured. In the case of the blood-streams, large and small, thorough admixture of the several constituents of the constantly circulating fluid upon a much larger scale is effected by a special arrangement which cannot but be regarded with great interest, and by which several other conditions of the greatest importance in the physiology of the higher animals and man are fulfilled. The red blood corpuscles, in addition to other offices performed by them, are intimately concerned in the admixture of every portion of blood, so that in the normal condition danger from the accumulation of various substances of a deleterious character is reduced to a minimum. These corpuscles are always changing their relative positions with respect to one another, and in the web of the foot of the young frog the soft flattened discs may be seen continually sliding over one another as the blood is propelled through the capillaries. By no other means could such thorough admixture of the dissolved constituents be so certainly ensured in a considerable body of fluid.

In every part, then, of all living organisms, present and past, and at all periods of life, in and around each little bioplast flow very minute streams in constant motion, some bringing nutrient substances to the living matter, while others take away from it and from the adjacent tissue, matters not adapted for nutrition and products which have resulted in the course of oxidation and disintegration. These streams never cease to flow as long as life lasts. In the case of some fully formed hard textures, such as bone and some vegetable tissues, all the streams are restricted to certain defined channels, but even under these circumstances there is free admixture of the portions of the interstitial fluid, and until the tissue is fully formed there is room for several different streams in the space which at length is to become a narrow canal.[3] In every tissue and organ there are multitudes of streams of interstitial fluid, most of which are probably much less than the one-hundred-thousandth of an inch in diameter, passing to and from the particles of bioplasm, moistening, irrigating, cleansing, and preserving the intervening tissue and other kinds of formed material, and at the same time supplying the bioplasm with everything necessary for its life. Thus every part of the body is kept in a state of healthy activity.

There is another point with reference to the nature and influence of the interstitial fluid which it is well to touch upon. Just as we find multitudes of colourless particles of bioplasm in the blood, so very small that they cannot be demonstrated without great care, so, freely moving in the interstitial fluid are also minute particles probably of similar nature.[4] These, like all other known forms of living matter, take up nutrient material from the surrounding medium and grow; and in certain conditions under which there is much interstitial fluid, increase considerably in size, so that they are to be demonstrated without any difficulty. Such very minute particles of bioplasm easily pass in either direction through the walls of capillary or lymphatic vessels. Whether found in the blood, lymph, or other fluids in serous cavities or in interspaces amongst the tissues, these minute particles of living matter take up any excess of nutrient substances that may be in solution and grow at their expense and, as already stated, also remove certain products of disintegration that may be present, thereby preventing the formation of deposits of various substances in the interstices of tissues, using up and greatly economising nutrient material, and converting it into living matter destined to undergo further changes into substances capable of being assimilated or eliminated directly or in a circuitous manner. This is one of many methods by which steady and uniform vital action is preserved, notwithstanding constant changes tending to disturb the balance.

From some of my remarks it might perhaps be inferred that the streams of fluid constantly flowing to and from the living matter through the moist surrounding formed material or through the fluid medium in which the organism lived, alternated with one another, or that the inward flowing streams were limited to certain paths and the outward flowing ones to others. But the frequent change in the situation of the current as seen in many plant cells render it more probable in my opinion that the streams are not even momentarily restricted either as regards direction or situation. Perhaps these minute streams may be compared with constantly changing fluid columns, the core of which flows in a direction the opposite of that taken by the circumferential portion. That in certain cases the inflowing stream passes very quickly through the surrounding formed material to reach the living matter seems to me certain, because a few seconds suffice for an alkaline coloured fluid to traverse the outer part of certain cells removed very soon after death and for the colouring matter to reach and be precipitated (?) and retained in the living matter and the nucleus or nuclei in the central part, while the outer portion (formed material) just traversed by the coloured fluid remains colourless.

Whichever way the streams of fluid may be flowing they are seldom straight or symmetrical or regular as regards the distance by which they are separated from one another. As in many other cases in living nature, the shortest, straightest and most direct route is not taken by fibres, tubes, vessels, and many cord-like textures. The currents of interstitial fluid hardly ever flow in straight lines. The same remark may be made with respect to the indications left of the course of the interstitial fluid in the tissues of fossil remains. We find the same general arrangement in the highest and lowest living organisms, whether now existing or in past time. Even the nerves do not pursue the shortest and most direct course from centre to periphery, and sometimes their course is most circuitous.

(To be continued.)

[3] In the formation of bone and many hard textures impregnated with calcareous and other mineral substances a soft formed material is first of all produced around the bioplasm, and this becomes the seat of deposition of the particles upon which the future hardness depends. Gradually the spaces between the points of deposition are encroached upon and become canals irregularly converging towards the particle of bioplasm. The bioplasm itself gradually lessens as the diameter of the channels becomes reduced, and at last is reduced to a small particle, which ultimately dies, leaving a *lacuna* or space with communicating tubes, *canaliculi*, which pass outwards to the circumference of what was once the outer part of the so-called cell. When the bone becomes dry, and often before, the lacunæ and canaliculi become filled with air, and, as is well known, this renders their arrangement so distinct in dried sections.

[4] It is probable that bacteria-germs find their way into the interstices suspended in the streams of interstitial fluid. Even fully-formed bacteria and larger organisms suspended in fluid easily pass through the walls of vessels and reach the interspaces between the elementary parts of tissues.

NOTE UPON A FORM OF ACUTE INFLAMMATION OF THE CONJUNCTIVA ASSOCIATED WITH PUS COCCI.

BY SYDNEY STEPHENSON, M.B. EDIN.,
OPHTHALMIC SURGEON TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN, ETC.

IN children one now and then observes an acute inflammation of the conjunctiva along with a pustular eruption of the face or scalp, especially when in the form of eczema impetiginoides.[1] It is thought that in these cases the conunctiva has been inoculated by the contents of the pustules upon the skin, which are known to include staphylococci. The transference of contagious particles is brought about, as a rule, by the fingers of the patient, although in other instances purulent matter may run directly into the eye. I have examined bacteriologically several cases of this kind, and in all have succeeded in finding pyococci in the secretion from the inflamed conjunctiva. I am therefore inclined to think that the organisms named may, with fair probability, be looked upon as causing the conjunctivitis. The following case is so typical of the entire series that it may serve to illustrate certain points with regard to diagnosis and treatment.

A female child, two years of age, was brought to the ophthalmic department of the North-Eastern Hospital for Children on Sept. 15th, 1897. The history was that a fortnight before "some yellow humory heads" came out on the skin below the eyelids, especially on the left side of the face. Upon inquiry it was found that an elder sister had lately recovered from a similar eruption affecting the chin and mouth, probably impetiginous in nature. The patient's left eye had been inflamed for seven days. With the exception of measles six months before coming under notice she had suffered no illness of any moment, and her eyes had been well in the interval. On examining the inflamed eye a considerable collection of yellowish-white discharge was seen in the lacus lacrymalis and the conjunctival sinuses. The lids were glossy and swollen, but not in the least tense; the eyeball was reddened; upon the upper and lower palpebral conjunctiva was a thin, greyish membrane, which could be readily detached, leaving the underlying tissues red and thick, with a slight tendency to bleed in a few scattered points. The cornea was bright and clear. The preauricular gland was not enlarged. The temperature of the patient was not raised; constitutional symptoms appeared to be absent. A few scabs were noticed upon the skin below the left lower eyelid. No discharge was present from the genitalia; there was no affection, as swelling or pain, of the joints. There was a negative history of sore-throat both as regards the child herself and those about her.

The diagnosis seemed to lie between an acute inflammation of the conjunctiva due to (1) Klebs-Löffler bacilli; (2) gonococci; (3) Weeks's bacilli; (4) Fraenkel's pneumococci; or (5) pyococci. From a clinical standpoint diphtheritis appeared to be excluded, since the eyelids could be separated without difficulty, the false membrane was easily detachable, the cornea was intact, the preauricular gland was not involved, there were no diphtheritic patches about the skin of the face, and constitutional symptoms were absent. Against purulent ophthalmia due to gonococci were the negative facts that the lids were not tense, that the secretion was not pus-like, that chemosis was not present, and, lastly, that discharge from the vulva or vagina was not present, as is apt to be the case among little girls. The unilateral character of the inflammation, although rather suggestive of pneumococcus infection, could not be regarded as telling much in any direction. Diagnosis, therefore, appeared to be narrowed down to an inflammation produced by Weeks's bacilli of catarrhal ophthalmia, by pneumococci, or by pus-organisms. The probability was that the micro-parasites last-named lay at the root of the mischief.

In order to determine this point a cover-glass preparation was made by lightly smearing a morsel of detached membrane over a glass slip, which was then stained in the usual way. The specimen, when examined with a one-twelfth oil immersion lens, showed merely a few scattered diplococci and cocci, lying upon and between the multinucleated and other cells contained in the preparation. These were found to retain their colour when treated according to Gram's method. This simple experiment was enough to yield valuable practical results, for in the first place it showed that diphtheria bacilli and Weeks's bacilli were absent; and secondly, that the organisms contained in the specimen must be either ordinary pus cocci or pneumococci, inasmuch as gonococci, as is well known, are decolourised by the alcohol employed in Gram's method. With a view to further identifying the organism or organisms known to be present two sloped agar-agar tubes were smeared with a morsel of membrane detached from the conjunctiva and then placed in the incubator at 37·5° C. Two days later each tube showed more or less discrete colonies of two kinds: (1) circular discs of orange hue from 1 to 3 mm. in diameter; and (2) discs looking not unlike dabs of white oil paint from 0·25 to 2 mm in diameter. From each kind of colony cover-glass preparations were made, some being stained with weak carbolic-fuchsin and others by Gram's method. The colonies in all instances were found to consist of clustered cocci. Accordingly, the presumption was that one was dealing with the staphylococcus pyogenes aureus and albus—that is to say, with the organisms commonly found in styes, boils, carbuncles, and many other of the circumscribed suppurations. As a further proof, some of the water that had condensed in the original agar tubes was distributed in the usual way through three tubes of liquefied peptone-gelatin (10 per cent.), the contents of which were then poured into a similar number of flat-bottomed flasks like those used for the cultivation of bacteria in water. Colonies made their appearance within two days as minute masses visible to the naked eye. After five days' growth some of the colonies were observed to be white and others yellow in colour, while all the superficial ones lay, as it were, in little pits upon the gelatin plate. Later, the medium became liquefied more appreciably around individual colonies, which were found microscopically to respond to the well-known morphological and staining reactions of staphylococcus pyogenes albus and aureus.

As to treatment, a solution of silver nitrate, containing ten grains to the ounce, was applied to the everted conjunctiva of the inflamed eye every other day, and a wash of perchloride of mercury (1 to 5000) used frequently. After ten applications of the silver there was scarcely any discharge from the conjunctiva, which was free from membrane, smooth, and but little swollen. The remedy was therefore discontinued. Upon Oct. 13th the palpebral conjunctiva showed no obvious signs of disease, although some blepharitis, such as often follows an acute inflammation of the conjunctiva, was present. This was treated in the usual way, and the patient was discharged cured on Oct. 27th.

As already stated, the above is typical of several cases in which I have found the two organisms named. This constant association of particular bacteria with a particular clinical type of conjunctivitis tends to indicate that the latter is caused by the former. In further support of this view the fact may be mentioned that upon two occasions I have seen an acute inflammation of the conjunctiva associated with otorrhœa, pus-organisms being present in the discharge both from the ear and from the eye.

Welbeck-street, W.

[1] Vide Dr. George Carpenter's paper on Pus Inoculations and Certain Eye Affections in Children, Archives of Pediatrics, vol. xi., 1894, p. 452.

ON THE FLAGELLATED FORM OF THE MALARIAL PARASITE.

BY W. G. MACCALLUM, M.D.,
JOHNS HOPKINS HOSPITAL, BALTIMORE.

MUCH attention has of late been devoted to the flagellated forms of the malarial organism, and many theories as to its significance have been put forward, none of which have met with general credence. These—the theories of Laveran, Danilewsky, Mannaberg, Manson, Sakharoff, and the Italian school—are too well known to require repetition here. My own observations on these forms as seen in the blood of crows, which are very generally infected with the halteridium of Labbé, have led me to quite different conclusions, and are briefly as follows.

Frequently in slides of the blood of infected crows there appear, after standing from twenty to thirty minutes, elongated motile forms such as were described by Danilewsky as vermiculi in his "Parasitologie Comparée du Sang"; and

in order to trace their origin it is necessary to observe closely the changes in the other forms seen in the same blood. Only the mature forms of the organism are seen to undergo any changes in the fresh slide of blood, the half-grown and younger forms remaining unchanged for a long time. The mature forms become rounded off, and are extruded from the corpuscle, which remains as a shadow lying in the plasma.

Both in the fresh and in the stained specimens of blood there can be seen differences which sharply distinguish two forms of the organisms. The forms are identical in outline, but the protoplasm of one is granular and opaque as compared with the clear hyaline protoplasm of the other. This distinction is well brought out in the stained specimen, in which the hyaline form remains almost entirely unstained, while the other takes on a well-marked blue stain with methylene blue. Of these it can be determined that the hyaline forms alone become flagellated.

These two forms, then, become extruded alike from the corpuscle and lie free in the plasma, but generally only a very short time elapses before the hyaline forms become flagellated, according to the process so often and so accurately described by workers on malaria. The granular forms lie quiet beside the nuclei and shadows of the red blood corpuscles which lately contained them, but are soon seen to be approached by the flagella which, having torn themselves away from the hyaline organism from whose protoplasm they were formed, struggle about among the corpuscles. These flagella, which so concentrate their protoplasm as to form a head, swarm about the granular spheres, and one of them plunges its head into the sphere and finally wriggles its whole body into that organism. Immediately on the entrance of this flagellum it seems to become impossible that another should enter, for they may be watched circling about, vainly beating their heads against the organism. The flagellum which has entered continues its activity for a few moments and the pigment of the organism is violently churned up. Soon it becomes quiet again, and remains so for from fifteen to twenty minutes, when a conical process begins to appear at one side of the organism, the pigment collecting mainly to the opposite side. This process grows larger and the pigment becomes more and more condensed until finally we have a fusiform organism with a small spherical appendage crowded with pigment at one end. The other end is hyaline, and the pigment granules which are not crowded into the small appendage are distributed superficially over the posterior part of the body. This spindle-shaped organism moves forward with a gliding motion, sometimes turning at the same time on its long axis, sometimes going through amœboid contortions. Red corpuscles lying in its path are either punctured by the hyaline anterior end, so that the hæmoglobin is allowed to escape into the plasma, or passed over and dragged along by the adhering posterior extremity.

In an intense infection a great destruction of corpuscles occurs; thus in a fresh slide after standing some time even leucocytes may fall victims to the destructive force of these organisms which have been seen to dash through them, scattering the granules into the plasma. As to the ultimate fate and true significance of these forms nothing definite can as yet be stated. In the slide they keep in motion for a long time but finally quiet down and disintegrate. The idea suggests itself from their great power of penetration that they may be the resistant forms that escape from the body during life into the external world. The whole process described above seems to be a sexual process analogous to the sexual process seen in the lower animals and plants which occurs under unfavourable conditions and results in the formation of a resistant "spore."

Recently I have examined the blood of a woman suffering from an infection with the æstivo-autumnal type of organism in which a great number of crescents were to be seen. These in the freshly-made slide of blood with very few exceptions retained their crescentric shape for only a few minutes (this activity in the change of form varies greatly in specimens of blood from different patients). They soon drew themselves up, thus straightening out the curve of the crescent while shortening themselves into the well-known ovoid form. After the lapse of from ten to twenty minutes most of them were quite round and extracorpuscular, the "bib" lying beside them as a delicate circle or "shadow of the red corpuscle." After from twenty to twenty-five minutes certain of the spherical forms became flagelleted; others, and especially those in which the pigment formed a definite ring and was not diffused throughout the organisms, remained quiet and did not become flagellated. The flagella broke from the flagellated forms and struggled about among the corpuscles, finally approaching the quiet spherical forms. One of them entered, agitating the pigment greatly, sometimes spinning the ring about: the rest were unable to enter, but swarmed about, beating their heads against the wall of the organism. This occured after from thirty-five to forty-five minutes. After the entrance of the flagellum the organism again became quiet and rather swollen; but although in the two instances in which this process was traced the fertilised form was watched for a long time no form analogous to the vermiculus was seen.

Note by Professor WILLIAM OSLER.—These observations of Dr. MacCallum are of very great interest and importance, and illustrate another step in our still scanty knowledge of the life-history of the malarial parasite. During the past two years Dr. MacCallum and Dr. Eugene Opie have been studying the hæmatozoa of birds, particularly with a view of ascertaining points in the life-history which might be suggestive in the study of the hæmatozoa of malaria. Their paper will appear in an early number of the *Journal of Experimental Medicine*.

Baltimore, U.S.A.

CONTRIBUTION TO THE SURGICAL ANATOMY OF THE TYMPANIC ANTRUM.

BY R. LAKE, F.R.C.S. ENG.,

SURGEON LARYNGOLOGIST TO THE NORTH LONDON HOSPITAL FOR CONSUMPTION.

THOSE who have frequent occasion to open the tympanic antrum must constantly be forcibly reminded of its irregular position, especially as affects its relationship to the lateral sinus; those with the tympanum itself and also the facial nerve being fairly constant and only affected by the size of the antrum, whether that size be the result of disease or not. The results of careful measurements of twenty-eight temporal bones not affected with disease has enabled me to form a series of sketches, each typical of a certain number of sections. This number, whilst sufficiently large to give a fair approximate idea of the relationship of the sinus and antrum, is far too small to enable one to assume with any degree of certainty that it is correct.

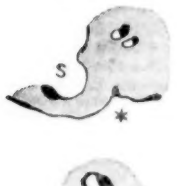
The sections are cut horizontally, passing through the suprameatal fossa, which lies immediately above and behind the suprameatal spine, and is probably the best guide and landmark for the antrum which we possess. Each section has been carefully traced, these tracings compared by being superimposed. In this way the groups were formed, and a typical section was drawn for each group. In the figures an asterisk marks the position of the suprameatal fossa. These original groups are six in number, and may advantageously be further reduced into three main divisions—viz., (1) Those in which the groove for the sinus lateralis must be opened and the sinus exposed during the mastoid operation; (2) those cases in which the antrum is operated on—the probabilities are that the sinus will be exposed, yet it may escape; and (3) consists of those cases in which the sinus will not come into view during the operation. The bones used were all from adult skulls, children's and young adults' and diseased bones not being used. Group 1 is illustrated by Fig. 1, which shows the result of two sections; Group 2 is illustrated by Fig. 2, which shows the result of two sections; and Group 3 is illustrated by Fig. 3 (nine sections), Fig. 4 (six sections), Fig. 5 (seven sections), and Fig. 6 (two sections).

From these figures one would expect to expose the sinus about once in six operations, and by reference to my case-book I find that my own give a proportion or ratio of one in six. Besides these types certain exceptional varieties occur, notably those in which as a result of long standing chronic suppurative ostitis media the antrum is almost or entirely obliterated. In such cases the usual advice in text-books is not to pursue our researches to a greater depth than 15 mm.[1] This advice is certainly based on careful anatomical measurements, but apart from the difficulty of such measurements

[1] Politzer's Diseases of the Ear, English edition, 1884, p. 513.

there is a better guide now that most operators remove the posterior superior bony wall of the meatus, and that is to be careful not to proceed deeper than the level of the internal tympanic wall. Again, in cases of disease of the antrum where the cavity is of such a large size, as in Figs. 5 and 6, the curette must be used with considerable care on the anterior wall of the cavity, for having had a facial paralysis in such a case after operation which took some time to pass away, I examined the anterior wall of several such

FIG. 1.



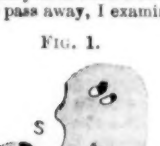


FIG. 2.

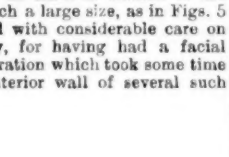


FIG. 3.

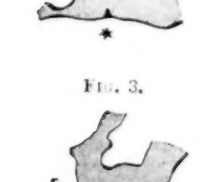


FIG. 4.

FIG. 5.

FIG. 6.

Figs. 1, 2, 3, 4, 5, and 6 represent the six primary groups of mastoid antra subdivided as above. S, Lateral sinus (at posterior end of section). * Suprameatal fossa. The antrum is not complete in Figs. 2, 3, and 5.

specimens and in more than one I found the facial canal imperfect for a certain distance or with an extremely delicate bony wall.

The act alone of exploring the sinus is one which, provided antiseptic precautions are taken, seems to be entirely without danger, and even where the sinus itself is opened careful plugging with iodoform gauze controls the bleeding and in no case has any ill effect been recorded, though the same cannot be said for puncture of the sinus with the drill. The use of the electric or dental burr is likely to reduce the number of times the sinus is exposed, as one can work with a straighter, that is a less funnel-shaped, wound in the bone, and it is usually due to to this alone that such accidents occur if the operator is working with a knowledge of the general position of the cavity. Continuing the relative measurements as far as one can from these sections, maintaining the original reservation that such a number can only give approximate accuracy, one finds the average depth of the attic to be a little over three-tenths of an inch, taken in a direct line from the point of election, and the distance of the nearest point of the sinus 0·48 in. on an average, with 0·2. in. as a minimum and 0·7 in. as a maximum; this last measurement demonstrates clearly that exposing the sinus by a continuation of a previous antrum operation is, as a rule, not only the proper surgical procedure, but the quickest route to the sinus, as the distance of the sinus is often less than a quarter of an inch from the suprameatal fossa.

Harley-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTES ON THREE CASES OF FRACTURE OF THE CORONOID PROCESS OF THE ULNA.[1]

BY W. GIFFORD NASH, F.R.C.S. ENG.

OWING to the influence of Hamilton's writings the occurrence of this fracture is supposed to be extremely rare. Erichsen, in the ninth edition of his "Science and Art of Surgery," says that "it is one of the rarest accidents in surgery." Keating, in his "Cyclopædia of the Diseases of Children," says that he only knows of records of four cases in children—viz., those of Hamilton, Duer, Liston, and Annandale. In Hamilton's case, a boy, aged nine years, had a backward dislocation of the elbow, easily reduced, but recurring as easily. In Duer's case the fragment could be grasped between the thumb and the finger. Liston gives no details of his case. Annandale, whilst excising an old unreduced backward dislocation of the elbow, found the tip of the coronoid process broken off. Sir Astley Cooper, in his work on "Fractures and Dislocations," relates two cases. Case 1 was a man who fell and hurt his elbow; there was a dislocation of the ulna backwards, which recurred whenever the arm was extended. Case 2 was found in a dissecting-room subject and was complicated with fracture of the external condyle. Mitchell[2] records a case of backward dislocation of the ulna, in which he believed the coronoid process to be fractured, as the ulna easily slipped out of place when the elbow was flexed. I have reason to believe that fracture of the coronoid process is not such a very rare condition, as I have seen three cases which could not be diagnosed as anything else.

CASE 1.—A boy, aged twelve years, came to the casualty department at the Middlesex Hospital on Sept. 28th, 1888, having fallen on his outstretched hand and hurt his elbow, which, he said, moved in and out. On examining the elbow there was no dislocation present, but a swelling over the insertion of the brachialis anticus. On flexing the elbow crepitus could be felt, and whilst trying to determine the origin of this both bones suddenly became dislocated backwards. The dislocation was just as easily reduced and reproduced. There was no injury to the condyles or shaft of the humerus or to the olecranon process.

CASE 2.—A boy, aged eleven years, fell off a wall on to his left arm and hurt his elbow. Next day, Oct. 18th, 1890, he was admitted to the South Devon Hospital, Plymouth, where I was house surgeon. When seen the left elbow was much swollen and deformed, there being dislocation of the ulna and radius backwards and outwards. The head of the radius rotated with supination and pronation. The olecranon

[1] Read at a meeting of the Bedford Medical Society on Oct. 23th, 1897.
[2] Brit. Med. Jour., vol. ii., 1894.

process was uninjured. Both the condyles were sound and continuous with the shaft of the humerus. Crepitus was felt on moving the elbow and during reduction of the dislocation. Whilst flexing and extending the joint the dislocation was easily reproduced just as in the previous case.

CASE 3.—On Sept. 22nd, 1897, a boy, aged ten years, fell from the parallel bars in a gymnasium and, it is supposed, fell on his forearm. When examined there was found a wound over the inner side of the right elbow, through which the internal condyle projected. Both bones of the forearm were dislocated backwards and outwards. Chloroform was given and the dislocation reduced. It was easily reproduced. A finger in the wound explored the joint and found the coronoid process torn off the ulna and attached merely to the brachialis anticus.

These three cases were all produced by falls on the hand or forearm. In each there was dislocation backwards of the ulna and radius, the dislocation on being reduced being easily reproduced. Crepitus was present in the first two cases combined with swelling over the insertion of the brachialis anticus. The other bony prominences of the elbow were uninjured. In the third case, which otherwise exactly resembled the first two, the finger in the joint was able to determine the nature of the injury. These cases I am confident were all examples of this so called rare injury, which I feel sure will more often be diagnosed now that we have the Roentgen rays to help us.

Bedford.

A NOTE ON THE USE OF ANTI-STREPTOCOCCIC SERUM IN PUERPERAL FEVER.

BY C. J. STANSBY, M.D. BRUX.

CASE 1.—On Aug. 20th I was called to see a woman, the mother of nine children, who had been delivered by a midwife eight days previously. Her temperature was 102° F. and her pulse was 110. Milk and discharges were very scanty. There were no lesions of the passage or perineum. The case was clearly one of infection, as the midwife had had other cases in her practice quite recently. I ordered four grains of quinine, $\frac{1}{100}$ gr. of sulphate of atropia, and $\frac{1}{8}$ gr. of sulphate of morphia every four hours, with a vaginal douche. On the 21st the temperature was 103° and the patient became delirious and tried to get out of the window. On the 22nd the temperature was 105° and the pulse was 140. She was quite unconscious with muttering delirium. At 7 P.M. Dr. K. Lawson saw the patient with me and suggested a trial of the anti-streptococcic serum (Burroughs, Wellcome, and Co., dry); 18 c.c. were injected in the gluteal region, and the pills continued. On the 23rd I found that the patient had slept most of the night. The temperature at 9 A.M. was 101° and the pulse was 92; she was quite conscious. At 9 P.M. the temperature was 105·4° and the pulse was 120. A second injection of 10 c.c. was administered. On the 24th at 9 A.M. and 9 P.M. the temperature was 103° and the pulse was 100. A third injection of 10 c.c. was given. On the 25th the temperature at 9 A.M. was 100·5° and at 9 P.M. it was 103·5°; on the 26th at 9 A.M. and 9 P.M. it was 102°; on the 27th it was 100·5°; on the 28th it was 100·5°; and on the 29th it was normal. Convalescence was retarded by the formation of an abscess in the gluteal region. The chief point is that after the first injection the patient slept well, awoke conscious, and although the temperature subsequently rose to 105·4° she never lost consciousness, but always said she felt better.

CASE 2.—On Sept. 16th I was called to see a Kaffir girl, aged nineteen years, who had been delivered nine days previously of her first child. Her temperature was 104° F. She was noisy and delirious. Milk and discharge were entirely suppressed; a vaginal douche and pills, as in the first case, were ordered; and I gave an injection of 20 c.c. of the anti-streptococcic serum. On visiting the patient three days later I found her quite conscious. The temperature was 100° and she has, I hear, quite recovered.

In the first case, in absence of directions, the injection was made deeply into the gluteal region and resulted in an abscess; in the second case the injection was made under the skin between the shoulders without any subsequent trouble. These cases having been so satisfactory I shall on the first opportunity make further trial of the remedy.

Beaconsfield, South Africa.

PNEUMOTHORAX CAUSED BY DIRECT VIOLENCE WITHOUT FRACTURE OF THE RIBS.

BY WALTER KIDD, M.D. LOND.

THE following case seems to be worth recording on account of the rarity of the causation.

On June 2nd, 1897, a man, aged twenty-one years, fell backwards from the footboard of an omnibus to the road with his spine flexed. He must have fallen directly on the left side of his back, striking this part only, no other bruises or injuries being found elsewhere. He felt a sharp pain in the left hypochondriac region and left lower ribs, but was able to proceed a considerable distance to a volunteer drill, in which he took part, but after a few minutes he felt too ill to continue and returned home. That night he suffered great pain in the region mentioned and his breathing was embarrassed.

I saw the patient first sixteen hours after the accident and found him seriously collapsed. His skin was cold and clammy, his pulse was rapid and "running," and the respirations were hurried and painful, the pain being referred chiefly to the region of the spleen. After a full dose of opium he became easier and could be examined. There was no external sign of injury, no fracture of the ribs, and no hæmoptysis. The left side of the chest was hyper-resonant in front up to the clavicle and behind to the spine of the scapula; the heart-sounds were feebly audible in the epigastrium and cardiac impulse was faint; the respiratory murmur was absent except in deep inspiration, when it was markedly amphoric, and occasional metallic tinkling could be heard; tactile and vocal fremitus were barely perceptible. Under opium and stimulants the urgent symptoms passed off, no more pain occurred, and in three days from the date of the accident there was dulness at the base of the left lung posteriorly and marked splashing sound in succussion. It was evident that pneumothorax, with fluid in the pleural cavity, was present.

The patient's recovery was slow, and on July 5th, about a month from the date of the accident, there was still very deficient expansion of the lung and some pleural fluid was present with pyrexia, the temperature ranging from 101° to 102° F., and the apex-beat was with difficulty made out to have come within an inch of the normal position. On Aug. 17th the lung was fully expanded and little or no dyspnœa remained, though the heart was still displaced inwards. On Sept. 15th all symptoms had passed away, the lung was normal as to percussion and auscultation, and the apex-beat was at the usual spot.

This case appears to have been one of injury to the thorax without fracture of the ribs, causing rupture of some vesicle or vesicles of the lung in a healthy subject, and, if so, is one of a class rarer than those in which rupture of vesicles takes place in straining. It may be suggested that a small vomica near the surface had ruptured, but of the existence of such there was no evidence before the accident and none also after recovery had taken place.

Blackheath.

THE NURSES' HOME AT THE SWANSEA HOSPITAL.—The foundation-stone of the Nurses' Home, which is to be erected adjoining the Swansea Hospital in commemoration of the Queen's Jubilee, was laid on Nov. 3rd by the mayor (Councillor Watkins). Mr. E. Davies, the chairman of the hospital board, said that it was estimated that the home would cost £2250, of which at present only £800 had been subscribed, but the building would be completed by means of funds available from the Guesdon bequest.

FALMOUTH WATER-SUPPLY.—The question of the water-supply came before the town council at Falmouth on Nov. 4th. Dr. W. K. Bullmore, the medical officer of health, reported that the closest supervision would have to be exercised to prevent polluted water from finding its way into the reservoir. The manager of the waterworks, replying to the council's demand for efficient filtration, said that it was proposed to promote a Bill enabling the corporation to purchase the waterworks, and under these circumstances the company did not see their way to move in the matter.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

UNIVERSITY COLLEGE HOSPITAL.

TWO CASES OF INTERSTITIAL HERNIA.

(Under the care of Mr. A. E. BARKER.)

IN 1835 Dance gave a short account of interstitial inguinal hernia, and in the following year a much fuller description of this condition was given by Goyrand.[1] In the form which is by far the most common it is associated, as in the second case recorded below, with an undescended testis. This may be explained by saying that the testis retained in the canal obstructs the downward extension of the processus vaginalis, and allows it to extend upwards and outwards between the two oblique muscles. The connexion of this form of hernia with the retention of the testis was conclusively shown by Tillaux[2] and by Dupuy.[3] Interstitial hernia is decidedly rarer in women than in men. For the notes of these cases we are indebted to Mr. Douglas Drew, surgical registrar.

CASE 1.—A woman, aged fifty-seven years, was admitted into University College Hospital on Feb. 5th, 1897, complaining of swellings in both groins. The patient was a widow, having been married twice. She had never had any children. Her occupation had been ordinary household work, but soon after her first marriage she did a good deal of hard lifting of heavy articles; since that time her work had been light. She had suffered at times from chronic bronchitis, from sciatica, and from influenza. Her family history was unimportant. She had been ruptured on the right side twenty years previously, but did not remember any definite cause for it. The rupture was easily kept up with a truss and gave her no pain until about two years before admission. About three years after the appearance of the rupture on the right side a rupture occurred on the left. This swelling was much harder than the one on the right and gave her much more pain. A double truss sufficed to keep the ruptures up until about a year before admission, when both came down frequently, even when the truss was on, and this was accompanied by a great deal of pain, sometimes necessitating prolonged rest in bed. A month before coming to the hospital both ruptures came down to an unusual extent and had to be reduced by her medical man. Ever since this she had been confined to bed. She had had no sickness but some nausea; her bowels had been made to act regularly by the aid of aperients. On admission a hernia was found in each inguinal region. The right was the larger, and the swelling extended into the right labium; the external ring was enlarged, and the structures superficial to it seemed to be somewhat atrophied by pressure. This hernia on the right side was readily reducible. Besides extending along the inguinal canal into the labium there was an extension upwards and outwards from the internal ring as far as the iliac spine, and this was especially noticeable when pressure was made over the lower part of the inguinal canal so as to prevent the hernia passing downwards. This upward extension of the hernia was seen to be interstitial, and after reduction the border of the internal oblique muscle could easily be felt. The hernia gave a good impulse on coughing, and the contents seemed to be nothing but bowel. On the left side was a smaller inguinal hernia, which also extended into the labium; it was reducible, but after reduction some thickening could be felt at the external ring which was noticeably enlarged.

On Feb. 11th Mr. Barker operated. The patient having been anæsthetised with gas and ether an incision was made over the right inguinal canal, and extended outwards to within an inch or so of the anterior superior iliac spine. The aponeurosis of the external oblique muscle and the external ring were exposed and laid open. The lower portion of the sac was easily shelled out, and the interstitial portion was very evident when the patient coughed. The two portions of the sac were divided by a well-marked groove, caused by the deep epigastric artery and vein crossing the centre. The lower part of the sac was pushed under the artery so that the whole sac was on the outer side of that vessel. The round ligament was divided and the sac, having been separated as far as its neck, was ligatured. The dissection was rather prolonged. The operation proceeded by Bassini's method; six deep sutures were necessary to close the internal oblique muscle and eight to close the external oblique muscle; a continuous suture was applied to the skin. On the next day the patient complained of severe abdominal pain and it was necessary to draw off the urine. No flatus had passed. The temperature was 100°F. The pain gradually diminished and the temperature fell until Feb. 20th, when the stitches were removed, the wound having healed completely. The catheter was needed for a few days longer. On March 4th Mr. Barker performed a radical cure by Bassini's method on the inguinal hernia on the left side. The wound healed by first intention, the temperature barely touching 100° on the 5th. The patient was discharged well on March 27th, 1897.

CASE 2.—A boy, aged twelve years, was admitted into University College Hospital on Oct. 27th, 1896, for a swelling in the right groin. He had always been in good health, though badly nourished. His mother had only noticed the swelling in the groin lately, but the patient said it had been there as long as he could remember. On admission an oval swelling about four inches in length in the right inguinal region was found; its long axis was obliquely placed and lay parallel to, but above, Poupart's ligament. By pressure the swelling was readily reduced through the internal abdominal ring, and after reduction the finger when placed over the internal ring slipped in as though the latter were almost patent, and a small oval mass was felt, probably the testis which was absent from the right side of the scrotum. On coughing the hernia protruded and extended upwards and outwards beneath the aponeurosis of the external oblique; it contained bowel, being resonant on percussion. The hernia did not extend at all downwards towards the scrotum.

On Oct. 29th Mr. Barker operated, the patient being under the influence of chloroform. An incision two and a half inches long was made over the inguinal canal and prolonged upwards and outwards in the direction of the fibres of the external oblique muscle. This muscle was exposed and slit up and the hernial sac was laid bare; its limits were defined and some long muscular filaments, evidently from the cremaster, were dissected off it; the mouth of the sac was large and came out through the internal ring; the sac itself was large and thin-walled and it spread out on every side from the mouth, so that it extended a certain distance towards the external ring and approached still more nearly the anterior superior iliac spine lying between the external and internal oblique muscles. The undescended testis was removed and the neck of the sac was tied in two places, the sac was cut off and the stump returned within the internal ring, which was then closed with five stitches. The incision in the external oblique muscle was sutured and the superficial wound was closed by a continuous stitch. The patient rapidly recovered from the operation, only a slight rise of temperature occurring and the wound healing by first intention. On Nov. 15th he left the hospital.

Remarks by Mr. BARKER.—These are the only cases of interstitial hernia it has fallen to my lot to operate on among some hundreds of operations for hernia. The only difficulty encountered was in the thinness of the sac in each case, which required care. In Case 1 the two portions of the sac separated by the epigastric vessels were long and sausage-shaped, with a common neck. In both cases the result has been excellent, Bassini's operation having in both been the one employed.

[1] Mémoires de l'Académie de Médecine, 1836, p. 14.
[2] Bulletin de Thérapeutique, March, 1871.
[3] Thèse de Paris, 1877.

KENT AND CANTERBURY HOSPITAL.

A CASE OF CATHETER FEVER; DEATH IN TWENTY HOURS; NECROPSY.

(Under the care of Dr. T. WHITEHEAD REID.)

URETHRAL fever is ascribed to two entirely different causes. By some surgeons it is considered to be due to a reflex irritation of a kidney affected with acute or chronic interstitial nephritis, while others attribute it to the absorption of micro-organisms from the urethra. It is probable

that each of these suggested causes may suffice to give rise to urethral fever, but it has been customary to look upon those cases where death follows in a few hours after some slight urethral procedure, such as the passing of a catheter, as due to reflex action, as it is thought that the fatal result is too rapid for it to be due to sepsis; but Albarran has reported a case of internal urethrotomy in which the bacillus coli communis was found in the blood of the patient, who died twelve hours after the operation. On the whole, it may be said that the majority of the cases are due to septic infection, but that a few may be caused by reflex irritation.

A man, aged forty-seven years, was admitted to the Kent and Canterbury Hospital on Sept. 24th, 1897, for stricture. He first began to have trouble in passing urine ten years ago while in the army in India, where he served for fourteen years, and was several times treated for venereal disease and fever. Two years ago his stricture was dilated up to No. 8, but he neglected to continue the use of the catheter, and the difficulty in passing urine soon recurred. During the previous three months several attempts had been made to pass the catheter without success and without any untoward after-symptoms, until subsequently to an attempt on Sept. 1st he had a somewhat severe rigor, and on the next day commenced with a slight attack of facial erysipelas, which passed off satisfactorily. On admission the patient appeared to be in good general health. His urine was of specific gravity 1018, acid, and contained neither pus nor albumin. On the 25th, at 1 P.M., an attempt to introduce a catheter was made, several varieties of small-sized gum elastic and silver instruments being used, but without any of them reaching the bladder. The attempts were continued in all for about ten minutes, and were followed by no hæmorrhage from the urethra. At 3 P.M. he commenced to shiver and vomited after taking some brandy. At 3.45 P.M. the temperature was 104° F. He again vomited at 4.15 P.M., and passed fæces and urine involuntarily. He now became very restless and the pulse began to fail. At 5 P.M. the temperature had reached 106·6°. He was unconscious, and the pulse was imperceptible at the wrist. A hypodermic injection of strychnine and ether was given and an enema containing two ounces of brandy in six ounces of hot water, and he was cold-packed. He soon recovered consciousness as the temperature fell. The pulse also improved At 6 P.M. the temperature was again rising and had reached 105·4°. Tepid sponging and cradling were ordered, with a repetition of the hypodermic injection. The temperature now gradually fell and at 11.30 P.M. was 100°. The pulse, however, was still only just perceptible at the wrist; otherwise he seemed to have got over the attack, and it was hoped that no further unpleasant development would arise. During the small hours of the morning, however, the heart again failed and the temperature steadily rose to 103·4°, and in spite of stimulants he died at 7 A.M. The urine after the rigor commenced was all passed involuntarily into the bed, but a specimen obtained from the bladder after death was loaded with albumin and showed 0·5 per cent. of urea.

Necropsy.—At the post-mortem examination (permission for which could unfortunately not be obtained until thirty hours after death) a long stricture in the spongy and membranous portions of the urethra was observed, with dilatation and hypertrophy of the urethra and bladder behind. There was no laceration of the mucous membrane of the urethra or dilatation of the ureters. The kidneys weighed eight ounces and presented no naked-eye changes save slight congestion. Decomposition was too advanced for microscopic examination to be undertaken. The heart weighed twelve ounces; the muscle was pale and flabby and the endocardium was deeply stained. None of the other viscera presented anything abnormal with the exception that there were a few petechiæ under the visceral layer of the pleuræ and some congestion of the bases of the lungs.

BULAWAYO HOSPITAL.

A CASE OF ABSCESS OF THE LIVER; OPERATION; RECOVERY.

(Under the care of Dr. FRANK ARNOLD, Resident Surgeon.)

WE cordially welcome the following communication from so outlying a portion of the British Empire as Bulawayo, and we gladly publish the case, as it is an excellent example of the good results which follow careful operative procedures in abscess of the liver. In THE LANCET of Oct. 2nd, 1897 (p. 858), we printed notes of two cases of hepatic abscess, treated by trans-thoracic hepatotomy, which resemble in many respects Dr. Arnold's case.

A man, aged thirty-four years, suffering from dysentery, was admitted to the Bulawayo Hospital under the care of Dr. F. Arnold on May 23rd. At the time of admission there was nothing peculiar about the attack beyond some slight pain in the right hypochondrium; this pain disappeared after a few days. On June 13th the patient was sufficiently well to be allowed up, and he continued to get up until the 19th. On that date, however, the temperature rose from normal to 101·4° F.; the bowels were loose, but not typical of dysentery; the pulse was frequent, soft, and regular; there was no rigor, the tongue was clean, and he was free from pain of any kind. These symptoms continued up to the 29th, the temperature rising at night to about 101° and falling to normal in the morning. The chest was repeatedly examined, for the patient began to waste rapidly and night sweats were noticed. On the evening of the 29th there was found one tender spot to pressure over a small area about the size of a florin in the ninth intercostal space; the skin here was not reddened, there were no dilated cutaneous veins, no œdema of the skin, and no flattening or bulging of this space; the liver was not enlarged. For the first time the patient complained of pain in the right shoulder, and there was some cough without any appreciable expectoration. Dr. Arnold suspected there might be a small collection of pus in the liver, and on the following day he inserted an aspirating needle in the ninth intercostal space slightly anterior to the line of the posterior axillary fold, and at a depth of one and a quarter inches reached a small collection of pus. All he could succeed in evacuating were about two drachms of curdled matter, looking very much like a mixture of strawberry cream and chocolate. The patient now improved somewhat; the evening rise in temperature became less, the bowels were moved once only instead of from two to four times in the twenty-four hours, the pain and cough were relieved, and Dr. Arnold would have felt disposed to think that he had emptied the abscess cavity had not the pulse still continued too frequent. On July 8th the temperature rose in the evening to 101·8° and continued to rise each evening subsequently to about 100° or 101°. On the 11th the diarrhœa again became prominent, and on the 12th Dr. Arnold aspirated in the same spot as before and drew off seven drachms of precisely similar pus, which, it may be added, was on both occasions quite free from smell. There was still no enlargement of the liver to be detected, but the superficial veins over the right side of the chest were more clearly seen than on the left, otherwise the appearance of the skin was normal. On the 17th it was decided to drain the abscess cavity, and Dr Ernest Head, of Bulawayo, kindly gave chloroform. In operating in this case Dr. Arnold was guided by a description of a case under the care of Mr. Godlee.[1] Dr. Arnold resected about one and a quarter inches of the tenth right rib immediately anterior to the line of the posterior fold of the axilla, and as soon as he had removed this piece of rib there was a distinct firm bulging into the open space so formed. He divided the succeeding structures carefully until he considered that he had reached a depth which justified him in supposing that he was touching the diaphragm; the pleural cavity was not opened. It was then his intention to suture the diaphragm to the margin of the skin incision before proceeding any further, but the patient's condition did not allow of a prolonged operation, so he satisfied himself by the use of an exploring syringe that he was immediately over the abscess and opened it freely, evacuating about half a pint of pus with characteristics as before. On putting his finger into the abscess cavity he found that it was situated in the posterior part of the right lobe of the liver immediately under the diaphragm, and as far as he could judge was single. A large drainage tube was inserted and the case was treated in the ordinary way, the cavity being douched twice a day with warm boric acid and permanganate of potassium solutions, and wood-wool pads applied as dressing. With the exception of one or two evening rises of temperature, which readily yielded to quinine, and were probably malarial, the temperature afterwards ran a normal course; but the bowels kept loose and the pulse frequent, although the wound was perfectly healthy and the discharge free from smell. It was concluded that the patient was not yet free from dysentery and he was limited to a strictly milk diet and the large bowel was washed out daily with a solution of quinine

[1] Jacobson's Operations of Surgery, p. 946, third edition.

(1 in 2000), about a couple of pints being used at each irrigation. Five or six days of this treatment removed the last symptom of dysentery and reduced the pulse-rate to normal. Two months after the operation the patient left the hospital in excellent health with merely a scar along the course of his tenth right rib to remind him of his abscess.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Cystic Tumour of the Bladder containing Calculi.—Cases of Mesenteric Cyst in Young Children.

A MEETING of this society was held on Nov. 9th, the President, Dr. HOWSHIP DICKINSON, being in the chair.

Mr. P. J. FREYER read a paper on an Obscure Cystic Tumour of the Bladder containing Two Calculi; successful Removal by Suprapubic Cystotomy. The patient, an Anglo-Indian, aged thirty-six years, had suffered for ten years from obscure urinary symptoms, which he dated from a fall in the cricket-field in 1886, by which he hurt his loins. The injury was followed by pain in the region of the right kidney, intermittent hæmaturia, pyrexia, and cystitis. The most prominent symptom for several years latterly was that the patient could never empty his bladder in the natural way. With much straining he could pass two or three ounces of urine, when the stream stopped, and he could only empty his bladder by passing a catheter or by lying down. High fever accompanied by much pus in the urine periodically occurred. When free from fever his urine was of a pale straw colour and of low specific gravity. The patient was extremely thin, weak, and depressed from long suffering. He was repeatedly sounded by various surgeons, but no stone was felt. Under these circumstances he was sent home in the autumn of last year. Mr. Freyer saw the patient first on Sept. 24th, 1896, and carefully sounded him, but found no stone. He suspected the presence of a tumour of the bladder which obstructed the flow of urine by falling against the neck of that viscus. He arrived at this conclusion through having seven years ago successfully removed, by a perineal opening, a pendulous fibroid tumour of the bladder from a patient who had suffered from this particular symptom. The cystoscope confirmed the suspicions, at once revealing a smooth tumour the size of a walnut, with thick rounded pedicle growing from the right side of the base of the bladder. On Sept. 30th the bladder was opened suprapubically, and a tumour was felt by the finger the size of a walnut, smooth on the surface except at the apex, where a small papilloma was growing from it, slightly bi-lobed, and attached by a round tense pedicle to the bladder wall near the right ureteral opening. On twisting off a portion by forceps and then drawing the tumour into the abdominal wound it proved to be cystic, and contained two uric acid calculi, one the size and shape of a nutmeg, the other the size of a large pea, the two weighing forty-two grains. The tumour had been rendered tense by the calculi and contained urine, but was now lying flaccid, like the finger of a glove, inside the bladder. The tumour was again drawn out into the wound, the pedicle was clamped, the tumour was excised, and the pedicle cauterised. A needle armed with silk was then passed through the pedicle behind the clamp and tied in two parts, taking the ends of the ligature out through the abdominal wound, and dressed as usual. Perfect recovery ensued, the ligatures on the pedicle coming away on the tenth and twelfth days respectively, and the wound completely closing within a month. The patient had had no urinary symptoms since, has put on flesh, and twelve months after the operation was in perfect health. Special attention was directed to the following points. 1. The nature and origin of the tumour and how the calculi got inside it. Microscopically it was found to be a single-walled cyst composed of fibrous tissue, and covered both inside and outside by transitional epithelium such as is found in the bladder and ureters. It was probably formed by the calculi passing down from the kidney as far as that portion of the ureter which passes obliquely through the bladder wall, stopping short of the ureteral opening; that, impelled onwards by the force of the urine, they bulged the bladder and ureteral walls inwards, and that in this way eventually a pendulous cystic tumour containing the calculi, and communicating by a narrow opening with the ureter, was formed. In the operation the cyst and contents were excised, the ureteral wall repaired, and the ureteral opening left untouched and patent. 2. The advantage of the cystoscope for diagnosis in obscure urinary disease. 3. This was, as far as Mr. Freyer was aware, the first instance in which a ligature has been applied to the pedicle of a bladder growth. The result suggests the more extended use of the ligature in tumours of the bladder and prostate for checking hæmorrhage, &c.; but care must be taken to bring the ends of the ligature out through the wound so that eventually they may come away, and not cut them short for fear of a phosphatic concretion forming on their ends.—Mr. A. E. BARKER agreed that the pathology of this case was that given by Mr. Freyer—namely, that the cyst was due to the bulging out of an obstructed ureter. He was familiar with cases in which calculi block the orifice of the ureter and cause a swelling and protrusion of the mucous membrane, giving rise to the appearance of a tumour with a central dimple corresponding to the ureteral orifice. But this was the only case he knew of in which the orifice could not be seen. He remarked on the absence of renal symptoms and asked whether there were any signs of irritation or distension of the kidney such as occur after the ureter has been occluded by a ligature.—Mr. MORGAN thought it unusual that the symptoms should have existed for so long without leading to more disturbance of health. Assuming the explanation of the retention by the blocking of the urethral orifice by the pendulous cyst to be correct, it was difficult to see what happened to the urine from the affected ureter at the periods when clear urine was being passed from the bladder. He was inclined to think that the ligatures were superfluous after clamping and cauterisation. He quoted one case in which a stone became impacted in the posterior wall of the ureter just as it enters the bladder. The stone was buried in exuberant granulations and was not discovered at the first exploration of the bladder, but at a second operation an incision was made into the mass and a stone was found in a cyst just below the orifice of the ureter.—Mr. HURRY FENWICK mentioned a case which had been published by Sir Thomas Smith in which a similar protrusion cyst from the ureter was found post mortem. In that case, however, the cyst did not contain calculi. He did not feel quite certain that the explanation which had been given of the tumour in the present case was the only possible one. It could be seen by the cystoscope that in almost all cases in which there was a calculus in the ureter a prolapse of the ureteral mucous lining took place of a similar character to the prolapse of the rectum in children. This prolapse often attained a considerable size and had a tendency to turn upwards. Was it not possible that Mr. Freyer had removed a cystiform protrusion of this kind? He thought that the ligature of the pedicle involved the grave risks of septic absorption, of hæmorrhage when the ligatures separated, and of leaving a sore which was apt to heal slowly and to become crusted over with phosphates. He preferred to clamp, cut off cleanly, and cauterise.—Mr. FREYER, in reply, said that while the patient was under his care there were no signs of hydronephrosis. Possibly the affected kidney had become totally destroyed at an earlier date. He also would prefer as a rule not to use ligatures, but at the time of the operation he did not know with what cavity the cyst communicated, and so he thought it wiser to ligature it securely off.

Mr. F. S. EVE read a paper on Mesenteric Cysts, with two cases in young children. The first case was that of a male infant, aged eleven weeks, who was admitted with a very freely moveable fluctuating tumour on the right side of the abdomen, which was diagnosed as a mesenteric cyst. He had gradually wasted since birth, and had constantly suffered with diarrhœa and vomiting. On May 1st laparotomy was performed. A cyst the size of a Tangerine orange was found in the free margin of the mesentery, the small intestine coursing over it. Two ounces of turbid serum were removed by aspiration. The cyst was attached to the abdominal wall and was opened a few days later and a drainage-tube inserted. Convalescence was rapid and uneventful, a fistula being left. The child appeared to have recovered, but on June 6th, nearly six weeks after the operation, was suddenly attacked with convulsions and collapse and died in a few hours. No cause for this was discovered at

the necropsy. There was a slight organic narrowing of the intestine where attached to the cyst, probably due to arrest of development. The second case was that of a male child aged three and a half years, who was admitted with acute intestinal obstruction of four days' duration; the abdomen was distended, and the patient was much exhausted by incessant vomiting. Dulness was noticed in the right lumbar region, but the tumour was obscured by distended coils of intestine. Laparotomy was performed; and a large cyst containing thirty-two ounces of serous fluid occupied the right flank; it was situated in the free margin of the mesentery and compressed the intestine. The cyst was excised and the mesentery sutured. Death occurred from shock and as a result of the previous obstruction nine hours after operation. At the necropsy there was no peritonitis. The cyst was found to be situated seven feet above the ileo-cæcal valve. These two cases illustrate the typical symptoms of mesenteric cyst in the earlier and later stages. The first had symptoms resembling gastro-enteritis with emaciation, the second typical intestinal obstruction without definite premonitory symptoms. In the first case all the physical signs of mesenteric cyst were well marked with the exception of the presence of a band of resonance over the tumour. In the second case the tumour was entirely obscured by coils of distended intestine; dulness on percussion was the only indication of its presence. Reference was made to the various abdominal tumours which may be mistaken for mesenteric cyst and a classification of mesenteric cysts was given, and it was pointed out that these two cases belonged to a group of lymphatic or serous cysts which were supposed to originate in the lymphatic glands of the mesentery. The cyst wall in the first case contained much unstriped muscle tissue. This was also observed in a specimen in the Museum of the Royal College of Surgeons of England. The fluid was albuminous and contained cholesterine. References were also made to more recently reported cases of mesenteric cyst possessing unusual characters. As regards treatment Mr. Eve held that drainage after attaching the cyst wall to the parietes was preferable to excision on account of its greater safety. The former was by no means an ideal operation, and its dangers and drawbacks were pointed out. The literature of the subject showed the rarity of mesenteric cysts in children.—Dr. H. D. ROLLESTON said that in the first case the microscopic appearances suggested that the cysts might have arisen from intestinal diverticula such as were occasionally present in the upper part of the large intestine. He had seen a case in which there were many small diverticular cysts at the upper part of the small intestine, and in a case recorded by a French observer there were 300 of these cysts. He thought this a better explanation than that the cysts were lymphatic retention cysts. Referring to some remarks which had been made about the position of Meckel's diverticulum Dr. Rolleston remarked that that structure did not occur in a constant position. In one case in which it had been present in an adult it was situated seventy-two inches from the cæcum.—Dr. NORMAN MOORE said that there was in the Museum of St. Bartholomew's Hospital a specimen with many small diverticular cysts along the mesenteric attachment of the jejunum. He thought that it was unlikely that a Meckel's diverticulum proper would ever become sealed off at its intestinal end.—Mr. MORGAN asked where the incision was made in operating on these cases.—Dr. R. A. GIBBONS asked for particulars of the mode of transfusion.—Mr. EVE, in reply, said that he admitted that the pathology of the cyst was not satisfactorily explained. The wall of the intestine just opposite to the cyst was quite smooth and showed no sign of any diverticulum. The incision in both cases was made in the middle line near the umbilicus. Intravenous transfusion with normal saline solution was employed.

The PRESIDENT announced that at the next meeting of the society on Nov. 23rd there will be a discussion on the Prevention of Enteric Fever, which will be opened by Dr. Vivian Poore.

MEDICAL SOCIETY OF LONDON.

Mitral Stenosis.—Cretinism.—Inoperable Tumours treated with Injections of Coley's Fluid.—Obesity.—Multiple Subcutaneous Tumours.—Employment of Rectangular Splint after Excision of the Mamma.

A CLINICAL meeting of this society was held on Nov. 8th, the President, Dr. A. E. SANSOM, being in the chair.

The PRESIDENT showed two cases of Mitral Stenosis of definite Rheumatic Origin. The first was that of a girl, ten years of age, who had had recent attacks of rheumatism. She showed marked increase of cardiac dulness both to the right and to the left of the normal area. A heaving impulse was felt with the ventricular systole over the right ventricle and not over the left. A thrill was felt to the right of the apex, but it did not terminate abruptly. There was a systolic murmur at the apex, not obscuring the first sound, which was loud and had the character of a snap or tap. A short presystolic murmur was heard internal to the apex. Dr. Sansom thought that the case illustrated an early period in the pathogenesis of mitral stenosis. He regarded it as probable that rheumatic endocarditis was still in evidence and that there was some mitral regurgitation from this cause; but he considered that the physical signs showed mitral stenosis to be the preponderating lesion. The second case was that of a young woman, aged twenty years, of poor physique, who had had rheumatic fever three times, the first in childhood and the last nine weeks ago. At the present time there was some increase of the cardiac dulness to the right and the apex beat was diffuse. A slapping first apical sound was followed by a prolonged murmur, unmodified by respiration, having its maximum to the right of the apex, fading off to the left, but was still audible at the angle of the left scapula. The aortic second sound could be heard at the apex. She had had several attacks of hæmorrhage from the stomach, not due to gastric ulceration, and there were other signs that the venous circulation was impeded, and that there was as well "starvation of the aorta." It was to this that he attributed the nervous symptoms that the patient frequently presented, as well as the stunted growth and the dyspepsia.—Dr. SEYMOUR TAYLOR expressed his opinion that practically all the cases of mitral stenosis in early life were of rheumatic origin or due to chorea, which he believed to be one of its manifestations. He thought that in the second case in addition to the physical signs which had already been mentioned as indicating the existence he could make out with his finger dilatation of the left auricle. He thought that the "snap" which was described was the relic of a murmur which could probably be reproduced by making the patient exert herself. He thought that dry-cupping was of the greatest service in such conditions, and sometimes wet-cupping or venesection was beneficial.—Dr. DE HAVILLAND HALL remarked that these cases often did not respond to digitalis at first. He usually began treatment by applying half-a-dozen leeches to the hepatic region and administering calomel internally. He agreed with Dr. Taylor as to the nature of the snap in the first case, and that the vast majority of cases of mitral stenosis in the young were of rheumatic causation.—Dr. SANSOM, in reply, said that he quite agreed with previous speakers as to the rheumatic causation of mitral stenosis. French observers were disposed to exclude rheumatism in regard to mitral stenosis and to try to drag in a tuberculous process to bolster up this doctrine; and the case would be found well stated from that point of view in Potain's "Cliniques de la Charité."

Dr. W. S. COLMAN showed a child, nine and a half years of age, who was an example of Partial Cretinism. She was now just 3 ft. high and only weighed 2 st. 2 lb. When she first came under observation, in June, 1897, she showed the following signs of cretinism: stunted growth, absence of any accessible thyroid gland, fat masses in the anterior triangles of the neck, thick lips, and puffy eyelids. There were lordosis and prominence of the abdomen. Although she had not previously been treated with thyroid extract there was an entire absence of the usual train of nervous symptoms associated with cretinism. She was alert and intelligent, being in the second standard at school, and her facial expression was bright. She had been taking three grains of the dry thyroid extract since June, and her appearance now was much less characteristic than at that time. In the four months she had grown two and a half inches. Dr. Colman thought that the escape of the nervous system was probably best to be explained on the assumption that there was an accessory thyroid whose secretion was adequate for the nutrition of the brain, but insufficient for the general nutrition of the body.—Dr. FLETCHER BEACH said that the degree of mental development in this case was very remarkable. He had never seen a case with so little mental defect or such educational capacity even after thyroid treatment, and in this case it appeared that there was no mental impairment even before the case came under treatment.—The PRESIDENT said that

there must be many of these partial cases going about unrecognised, and it would be well to watch for them and treat them with thyroid glands.

Dr. WALTER CARR showed a case of Sporadic Cretinism treated with thyroid extract. The child was five years old when she first came under observation in February, 1896, and she then presented a typically cretinoid appearance; her height was 30 in. and her weight was 24½ lb.; her hair was coarse and scanty; the skin was dry; there was no sweating; the hands were broad, the temperature was slightly sub-normal, and the abdomen was very protuberant; she could walk very little, could say only a few words, and took no notice; no thyroid gland could be felt. Development had been very slow, and when two years old she had only four teeth. She was given at first one 5 gr. thyroid tabloid a day, but as this caused a rise of temperature to 102° F. it was reduced to half a tabloid. Gradual improvement set in; she sweated profusely, the pulse got faster, and the temperature became normal; her weight fell at first to 20 lb, and then slowly increased, the cretinoid aspect disappeared, and the intelligence steadily improved. The dose of thyroid extract has been slowly diminished, and for the last four months she has only taken one 1½ gr. tabloid every third day. She now appears to be a healthy, intelligent child and goes to school; her height is 37½ in. and her weight 37 lb.

Mr. MANSELL MOULLIN showed two cases in which Inoperable Tumours had almost disappeared after the repeated injection of Coley's fluid. The first was a man, twenty-eight years of age, who was admitted in November, 1895, for a swelling in the groin, which he had noticed for four weeks. There was a firm, fixed, non-fluctuating swelling lying underneath the right iliac vessels, and there were several enlarged glands over it. The skin was not red or fixed and did not pit on pressure. He looked ill and there was some irregular pyrexia up to 101° F. Treatment was commenced on Oct. 4th with half a minim of Coley's fluid. There was slight reaction. The next day the injection of a larger dose was tried and there was no reaction, and injections of increasing strength were given every three or four days, reaching eight minims in February, when the treatment was discontinued. On one or two occasions he had rigors after the injections. His general condition improved and he gained 7 lb. in weight. The tumour at first increased rapidly, but in January it appeared to be acutely inflamed, and from that date it rapidly shrank, and by March only a trace of it could be felt, and since then it has scarcely altered. The second case was that of a man, forty-eight years of age, who was admitted in November, 1896, for an abdominal tumour. On examination the left flank was found to be occupied with a large swelling of irregular shape, hard, not fluctuating, and not connected with the skin or the abdominal muscles. It descended into the iliac fossa and reached upwards under the false ribs. There was no glandular enlargement and very little pain. When treatment was commenced on Dec. 16th, 1896, the tumour was rapidly growing. The injections, which were gradually increased as in the last case, were not as a rule followed by reaction; but on Dec. 29th and again on Jan. 29th, 1897, there were rigors. At the time of the latter rigor the tumour became acutely inflamed, the skin being red and œdematous, so that there was some fear of suppuration. As this subsided the tumour continued to shrink more and more until at the present time very little of it could be felt. Mr. Mansell Moullin said that there was no actual proof that these tumours were sarcomata, but that was the opinion formed by all those who had an opportunity of examining them carefully. They were certainly not gummata and there was nothing to suggest an inflammatory origin; if they had been they would almost certainly have suppurated under the treatment. He considered that the treatment was not free from danger. He had seen one case in which a feeble patient died after the second injection. Coley had published twenty cases in which the treatment had been applied successfully. He himself had tried it in nine cases altogether, and in three the growths practically disappeared, and in two the size underwent considerable diminution.—Mr. WATSON CHEYNE said that he had seen two cases in which the treatment had been employed, and in neither was there any definite good result. It was curious that the treatment appeared to benefit only cases of spindle-celled sarcomata.—Dr. COLMAN said that he had had the opportunity of examining two tumours post mortem, in one case ten days and in the other ten months after the injection of Coley's fluid. In the first there was a cavity at the site of the injections containing two drachms of yellow fluid composed of broken-down cells, and in the older case there was an ordinary cicatrix at the sites of injection. The injection had not arrested the growth of the tumour.—The PRESIDENT asked how the fluid was diluted for the administration of the smaller doses.—Mr. MANSELL MOULLIN, in reply, said that he used sterilised distilled water as a diluent. He had never had the opportunity of inspecting a tumour after injection, but in one case now under treatment a part of the tumour had sloughed out.

Dr. DE HAVILLAND HALL exhibited a man, aged forty-two years, as an example of obesity relieved by thyroid medication. The patient was admitted into the Westminster Hospital on Aug. 17th, 1896, suffering from Partial Hemiplegia with a previous history of sciatica and gout. He stated that he weighed 28 st. On Aug. 29th he was found to weigh 24 st. 11 lb. 8 oz. He was put on nitrogenous diet and given iodide of potassium. On Sept. 8th a thyroid tabloid was ordered daily. On Sept. 11th he had two daily and on Oct. 3rd three a day. His weight steadily went down to 21 st. 10 lb. 3 oz on Oct. 30th. Since his discharge from the hospital he had continued the same diet as far as possible, and had had one thyroid tabloid daily for most of the time. His weight at the present time is 19 st. 5 lb. While under treatment there was marked diuresis up to 90 oz. per diem, and the urea varied from 2·2 per cent. to 3·8 per cent.

Dr. GEORGE TEMPLETON showed a case of Multiple Subcutaneous Tumours, probably Fibro-lipomata, occurring in a healthy single woman, twenty-nine years of age. Seven years ago she noticed a small, hard, moveable swelling under the skin of the right loin, her attention being directed thither by slight pain. Since then several others had made their appearance, commencing as small, round, hard nodules, and gradually increasing, the largest now being one and a half inches across. Some twenty-four of them were scattered over the trunk and limbs, but not on the face. They were free from pain except when irritated by the clothing; the pain was then of a dull, aching character. When manipulated the smaller ones were fairly hard and moveable; the larger ones were rather more fixed and appeared to contain more soft fibrous tissue and fat than did the others. She did not know of a similar condition ever having existed in any of her relatives. Up to the present she had not consented to have any of them removed for microscopic purposes.—Dr. DE HAVILLAND HALL referred to a similar case which he had seen in a man of advanced years who ultimately developed fibroid phthisis. They gave rise to no serious symptoms and persisted for many years. He employed many remedies, including arsenic in large doses, without any result. He thought that the tumours in Mr. Templeton's case were fibro-lipomata.—Mr. F. C. WALLIS thought that sarcoma was excluded by the duration and by the condition of the patient, and he agreed that they were fibro-lipomata.—Dr. SYMONS ECCLES asked whether the hard or the soft tumours were the older.—Dr. TEMPLETON, in reply, said that the tumours were hard at first, and then appeared to undergo a fatty metamorphosis.

Mr. COTTERELL showed a patient treated with an Axillary Rectangular Splint after Excision of the Mamma, with free removal of the pectoral muscle. The arm was placed at a right angle to the trunk, instead of being bound to the side. The idea was suggested to him by Dr. Heaton, and the result in this case appeared to be most successful. He agreed that it was too early, fifteen days after the operation, to be certain that there would be no cicatricial contraction, but the patient could already use her arm to do her hair, and he thought that if she used the arm regularly there would be little risk of contraction. There had been no pain after the operation, although there was usually discomfort or cramp when the arm was bound tightly to the side.

OBSTETRICAL SOCIETY OF LONDON.

Abdominal Hysterectomy for Myoma of the Uterus.—Exhibition of Specimens.

A MEETING of this society was held on Nov. 3rd, the President, Dr. C. J. CULLINGWORTH, being in the chair.

Mr. BLAND SUTTON read a paper on Abdominal Hysterectomy for Myoma of the Uterus, with Brief Notes of Twenty-eight Cases. He said that recent improvements in the methods

of performing hysterectomy had been followed by such good consequences that abdominal hysterectomy for myomata of the uterus too large to admit of vaginal myomectomy was now rapidly gaining favour, and it was becoming a plain duty to point out to patients with uterine myomata, as was done when they had ovarian tumours, that the earlier the tumours were removed the less the operative dangers and therefore a diminished peril to life. It was for the purpose of showing how safely uncomplicated myomata of the uterus could be dealt with that he ventured to place before the society brief records of twenty-eight cases operated upon at the Chelsea Hospital for Women and the Middlesex Hospital. Whenever possible, especially when operative interference was necessary during the menstrual period of life, he reversed the conditions of oöphorectomy, so that instead of removing the ovaries and Fallopian tubes and leaving the uterus and tumour he removed the uterus and tumour and left one or both ovaries with the corresponding Fallopian tube. This happened in fourteen cases in the subjoined list. The immediate results of this method were admirable, and spared the patient at least the inconvenience of an acute menopause.

Under 30	1
Between 30 and 40	10
Between 40 and 50	13
Above 50	4
	28

Only one patient had ceased to menstruate previously to the operation.

Mr. ALBAN DORAN insisted that whilst an ovarian cyst nearly always caused death if not removed, a large number of uterine fibroids remained stationary and harmless. Others, however, entailed discomfort and danger, and then the surgeon must consider which was the safest operation. Altogether the retro-peritoneal method seemed the best. He found that in cases where the tumour was large but the cervix free the operation was especially satisfactory. The arteries were easily reached or felt and secured, the cervix could then be divided, and the healthy mucus which it contained was free from germs. The patient was saved from the inevitable direct and secondary evils of the serre-nœud. This advantage was marked in six very anæmic cases where he had successfully operated; in one there was a sloughing sub-mucous growth which caused no trouble after the operation. He had lost two cases where the operation had certainly been deferred far too long; unhealthy mucus in the cervix was a source of peril in sickly subjects. No operation for burrowing and cervical fibroids could be free from danger; enlarged branches of the uterine arteries were here a source of peril. Mr. Doran objected to leaving the Fallopian tubes behind, and always endeavoured to take them away with the uterus undivided. Their contents were often unhealthy. As to the abdominal sutures no method was perfect. The numerous reports sent in at the Geneva Congress in 1896 tended to show that in every case the last method adopted by each authority was the best insurance against hernia. The fallacies in such evidence were obvious.

Dr. PLAYFAIR said that he agreed as to the great practical interest of Mr. Sutton's paper, but first he must take exception to the sweeping conclusion that had been arrived at that removal of the appendages was not to be performed in any case of fibromyoma. In his experience in properly selected cases it was one of the most valuable operations, and the results were occasionally most brilliant. He was aware that this was not the opinion of the most forward school of hysterectomists either in America or England, who seemed to hold that the mere existence of a fibromyoma, whether it produced symptoms or not, was a sufficient ground for hysterectomy. He held this theory to be most dangerous and untenable. Dr. Duncan had shown that evening quite a small fibroid not bigger than a large orange which he had removed by hysterectomy. Some of the Fellows had criticised this procedure and said he should have removed it by vaginal enucleation. He contended, however, that if Dr. Duncan had performed oöphorectomy he would have subjected the patient to infinitely less risk and have obtained quite as good a result. The small mortality, which was practically *nil*, following oöphorectomy was one of the chief grounds for selecting it in suitable cases. Even in Mr. Sutton's cases there had been a mortality of 7 or 8 per cent.; conceive what it would be in less experienced and skilful hands. It seemed to him absurd to compare the risks to which the patient was subjected in performing oöphorectomy and hysterectomy. Another point he might remark on was the operation to be selected. He felt sure that the extra-peritoneal method and clamp were doomed. The long painful convalescence was most terrible, and no fact seemed to him more certain than that the intra-peritoneal plan had come to stay. He strongly advocated suture of the parietes by three separate layers.

Dr. HORROCKS was surprised that no mention was made of Baer, who first described the operation. Dr. Galabin published a paper on it, and later Mr. Harrison Cripps brought forward some cases before the society. At the discussion on that paper he (Dr. Horrocks) had ventured to describe the operation with the serre-nœud as a barbarous one; and although exception was taken to the word at the time opinion was now largely against this so-called old operation. In one case, after using the serre-nœud, the patient had so much pain from the dragging of the pedicle that he opened the abdomen the second time and completed the operation by Baer's method, and the patient had been well ever since. One thing surprised him very much and that was the large number of cases operated upon by certain operators. He could not but think that in many of these cases no operation whatever was required, for it was a well-known fact that fibroid tumours were in the majority of cases innocent tumours. They stood on quite a different footing from ovarian cysts, which almost invariably proved fatal when left alone. This point had a bearing on the mortality of Mr. Sutton's cases, for if all the twenty eight cases were severe cases of fibroids, causing grave symptoms of hæmorrhage and such like, the loss of two, or a mortality of 7 or 6 per cent., could not be called great. He had performed the operation twelve times with one death in a case complicated with albuminuria. Each of these cases was most serious, and none of them so small as some of those in Mr. Sutton's list. He could not agree that the mortality of the operation was as low as that of ovariotomy. He thought 7 per cent. a high mortality in ovariotomy in these days of asepsis. He entirely agreed on one point—viz., the importance of leaving the patient one or both ovaries when they were healthy. He himself had done this in several instances and considered it a far greater mutilation to remove the ovaries than to remove the uterus.

Dr. C. H. ROBERTS thought it was a pity that the history of the cases had not been fully given, particularly as regarded the symptoms which had rendered the operations described necessary. He could not agree with Mr. Sutton in many points; surely a very large number of fibroids seen did not require operation at all. He thought the sweeping assertions as to clamp and belt made by Mr. Sutton were undeserved.

Mr. MEREDITH expressed his entire dissent from the views held by Mr. Sutton regarding the duty of recommending early operation in cases of uterine fibromyoma, a course rightly adopted in the case of ovarian tumours. The two diseases are not comparable as regards the necessity for operative interference since the great majority of fibromyomatous growths do not tend to imperil life and may never require surgical treatment, while ovarian tumours, on the other hand, inevitably prove fatal unless removed. It should be borne in mind that the fact of recovery after an operation by no means absolutely implies that the treatment adopted was a necessary procedure. Mr. Sutton's views on the value of the intra-peritoneal treatment of the uterine stump would appear to be founded upon somewhat insufficient data—viz., the results of only twenty-six operations, of which two proved fatal. The speaker's experience with the serre-nœud had given him eighty-three recoveries out of a succession of ninety abdominal hysterectomies, including a run of thirty cases without a fatality and two series of forty and forty-seven respectively with but two deaths in each, results which had not as yet, so far as he knew, been equalled by advocates of the intra peritoneal method. At the same time, however, he fully recognised the advantages of the shorter convalescence required by this latter plan of treatment, and he had therefore now adopted it for some six months past with very satisfactory results. Mr. Sutton did not hesitate to say that the operation of oöphorectomy had now been entirely superseded by intra-peritoneal hysterectomy; but he (Mr. Meredith) still considered the operation in question to be a most valuable and efficient method of treatment in suitable instances, giving a mortality in his experience of something under 3 per cent. A considerable proportion of cases of abdominal hysterectomy, especially where the lower segment of the uterus is tolerably

free from growth, will recover easily whether the stump is secured by the serre-nœud or by ligature; but, on the other hand, many tumours are to be met with which will tax to the utmost the knowledge and skill of the operator, and the wise surgeon will reserve to himself the power of selecting in any given instance the method of treatment which from his own experience he deems most likely to secure the best result for his patient.

Dr. WILLIAM DUNCAN quite agreed with Mr. Sutton that the intra-peritoneal method of performing hysterectomy was far superior to the extra-peritoneal method in which a clamp had to be used and the stump left to slough away. He published in THE LANCET about six months ago a list of eighteen consecutive cases which comprised every case (hospital and private) he had performed in which only one death occurred, and that took place on the eighteenth day from pulmonary embolism when the patient was considered convalescent. He quite agreed with Mr. Doran that the appendages should be removed as well as the tumour, for in not a few cases of fibroids of the uterus it is well known that the tubes contain pus, hence a source of danger if these are left. Seeing the remarkable success that attended this operation he was strongly of opinion that oöphorectomy for fibroids should be allowed to lapse into oblivion even in cases of small tumours, for oöphorectomy in these cases has a mortality of at least 5 per cent.

Mr. BUTLER-SMYTHE thought credit was due to Mr. Sutton for so clearly pointing out the additional risks attending the performance of the so-called pan-hysterectomy. These risks were not imaginary, but there was a real danger to the ureters, one or both of which might easily be cut across or included in the lowest ligature. His (Mr. Butler-Smythe's) ideas on the subject under discussion were so absolutely opposed to the views held by Mr. Sutton that he would like to ask him what the signs and symptoms were which would lead him to perform hysterectomy. In his opinion not one fibroid in twenty required removal, and he was now speaking of large tumours and not of those similar to the one exhibited that evening.

Dr. GRIFFITH entirely agreed with those who held that the intra-peritoneal method was the preferable operation. No one who had followed the progress of many cases operated upon by the two methods would hesitate to admit the greater freedom from suffering during convalescence and the general well-doing exhibited by patients after the intra-peritoneal operation. His conviction was that the operation of enucleation of fibroids in suitable cases with proper antiseptic methods was a very safe and preferable operation, leaving the patient with a perfect uterus as well as ovaries.

Dr. HEYWOOD SMITH said that in 1892 he read a paper elsewhere on Sub-peritoneal Hysterectomy, which he contended described the operation better than intra-peritoneal. In it he brought forward cases by Goffe (New York) and Milton (Cairo), as well as some by himself, and he was glad to find the most advanced operators were pursuing that method to the exclusion of the serre-nœud cöphorectomy and so-called pan-hysterectomy.

The PRESIDENT said he had had an opportunity of declaring his views on the subject before them so recently—namely, in the discussion which took place last year upon Mr. Harrison Cripps's paper—that he would not occupy more than a few minutes with his remarks on the present occasion. He agreed with Mr. Sutton in regarding the operation he had described as superior to that of so-called pan-hysterectomy. He also agreed as to the desirability of leaving if possible one or both ovaries. The trend of modern surgery was in the direction of removing nothing that could be avoided and in sparing wherever possible, both in male and female, one or both of the essential organs of reproduction in operating for diseases in which those organs were involved.

Mr. BLAND SUTTON, in reply, expressed amazement at the singular course the discussion had taken. He never for a moment anticipated that the horrid clamp would find a single supporter. The clamp in the treatment of hysterectomy was doomed, and he ventured to predict that in five years' time no operator would be found unwise enough to advocate its use. In regard to the wound he said a yielding cicatrix after any form of abdominal operation in which the wound was secured by a single row of sutures was in a certain proportion of cases inevitable.

The following specimens were exhibited:—

The PRESIDENT: (1) Fibroma of the Ovary; (2) Gangrene of an Interstitial Fibromyoma of the Uterus; (3) Fibromyomata of the Uterus causing Intestinal Obstruction and Death after the Menopause; and (4) Early Ectopic Gestation complicated by Fibromyomata of the Uterus.

Mr. TARGETT (for Dr. WILLIAMSON): Sarcoma of the Uterus causing Inversion; and (2) Intra-pubic Joint producing Diminution of the Pelvic Inlet.

Dr. PLAYFAIR: Carcinoma of the Cervix Uteri; removed by Total Extirpation, the ovaries and tubes having been removed two years previously.

Dr. WILLIAM DUNCAN: (1) Large Myoma of the Uterus and Tumour of the Left Ovary; and (2) Small Interstitial Fibroid of the Uterus removed by Abdominal Hysterectomy.

Dr. JOHN PHILLIPS related the subsequent history of "A Case of Ruptured Uterus."

HARVEIAN SOCIETY OF LONDON.

The Treatment of Lateral Curvature of the Spine.

A MEETING of this society was held on Nov. 4th, Dr. MILSON, President, being in the chair.

Mr. NOBLE SMITH read a paper on the Treatment of Lateral Curvature of the Spine and gave a demonstration. He pointed out the advantages that were to be derived from mechanical assistance in addition to other methods of treatment. It was stated by the advocates of exercise treatment alone that deformity in the bones could not be remedied, and it was remarked that a test of this deformity was the existence of "rotation." Mr. Noble Smith had found that it was quite possible by means of the hands alone to hold a patient in a straight position although slight rotation had commenced, and it was possible to maintain that position by means of apparatus until the bones had readjusted themselves. He demonstrated the action of the apparatus upon several patients whom he exhibited, showing that the chest was left perfectly free from pressure, that there was no interference with development or with the use of the muscles, and that the pressure was so gentle that it acted rather by encouraging the patients to hold themselves erect than by force alone. Mr. Noble Smith stated that children quickly realised the comfort and benefit of wearing the apparatus. If there was pain or aching or a sense of weakness these symptoms were quickly removed. In older patients in cases of severe deformity the necessity of such treatment was, he thought, obvious, as it was almost the only way of relieving pain, a result which could always be attained. A few useful exercises were then demonstrated, and especially one which tended to counteract "rotation." Treatment by exercises alone only acted temporarily, the spine falling back towards the old position, whereas by means of apparatus the results were kept up in the intervals. The difficulty of forming a correct diagnosis between caries and lateral curvature in the early stages was referred to, and it was urged that great caution should be observed with regard to exercises during this uncertain stage. Mr. Noble Smith then proceeded to demonstrate the application of the treatment by forced reduction of the deformity. He stated that the application of this plan of treatment, which had recently attracted so much attention in France (especially in reference to cases of caries), was well shown in the case of the patient exhibited. This was of course a case of lateral curvature, for which deformity he considered the forced reduction quite safe, whereas in caries it was a dangerous remedy. A photograph had been taken of the back before treatment was commenced and another after an interval of three weeks. Three operations had been performed during these three weeks, at each of which something was felt to give way like the breaking down of adhesions, and after each operation great improvement was found to have taken place. The patient's back showed a marked improvement upon the photograph taken before treatment.

Mr. JACKSON CLARKE said that there was much misunderstanding as to the various methods of treating lateral curvature. In the lateral curvature of rickety infants instrumental treatment was absolutely necessary. A moulded leather back splint which left the chest and limbs free was the best form of support in such cases. Some surgeons were under the impression that they used exercises alone in the treatment of lateral curvature. Mr. Roth's plan consisted in placing the patient for three-quarters of an hour every day on a firm table and then putting the patient through a series of exercises. In this method the table was an instrument which the weight of the patient brought into play. And, further,

this plan required the patient in the intervals between the exercises to recline on a special couch, which was also an instrument having the same action as the upright part of a Chance's splint as modified by Mr. Noble Smith. The lateral arms of a Chance's splint had the same action as the "lateral sling" recommended by Mr. Barwell. Thus there was less difference between the methods of various surgeons than at first sight appeared. He (Mr. Clarke) had under his care a great number of patients wearing Chance's splint with the best results. Instruments such as felt corsets or mechanical contrivances that surrounded and cramped the chest were to be avoided. Young men with strong muscles and good muscular instincts could be sometimes successfully treated without wearing an instrument.

Dr. HARE expressed himself as convinced of the value of the treatment by apparatus as carried out by Mr. Noble Smith, whose methods he had watched with great interest in patients whom he (Dr. Hare) had sent to him.

Dr. BOWLES remarked that having at one time been opposed to treatment by apparatus he had become converted to this plan of dealing with lateral curvature from having seen the benefits derived by patients under the care of Mr. Noble Smith. In elderly patients, especially those suffering from complications of the chest, he had seen excellent results.

Mr. DODSWORTH spoke in favour of this treatment. He had submitted members of his own family to Mr. Noble Smith's care with the most gratifying results, and he had also many of his patients under his treatment with equally good effects.

Mr. ROE CARTER (Anerley) had seen the results of Mr. Noble Smith's treatment in quite twenty cases, and he could say that in every one the benefits had been very decided. Some of these patients had previously undergone treatment by exercises, but with unfavourable results, and several of them who were severely deformed were eventually perfectly cured by means of the apparatus. One great point in favour of this treatment was, he thought, that the patients were able from the first to continue their ordinary avocations and were not laid up for a single day.

Dr. SCANES SPICER related a case which had been treated by Mr. Noble Smith, in which there was very considerable deformity. The patient was so perfectly cured after four months' treatment that an eminent physician who was subsequently consulted stated that he could then find nothing whatever the matter with the spine.

Mr. GAY asked to what extent the pelvis was affected in cases of scoliosis, and the PRESIDENT inquired as to the length of time required for treatment.

Mr. NOBLE SMITH, in reply, stated that the time required varied according to the case.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Cerebral Hæmorrhage in a Child.—Gunshot Injuries in the late Greco-Turkish War.

A MEETING of this society was held on Nov. 5th, Dr. H. P. POTTER, President, being in the chair.

Mr. MAITLAND THOMPSON read the history of a case of Cerebral Hæmorrhage in a Child. A boy, aged thirteen years, was at school, and had just passed through an attack of chicken-pox, and while quiet during convalescence he one day in the morning complained of headache and vomited. An hour later he was unconscious. There was no strabismus. Both legs were extended, but there was no voluntary movement in them. Convulsions soon afterwards set in and the temperature rose, and the patient died ten and a half hours after becoming unconscious. At the necropsy the vessels of the meninges were found to be much congested and the brain substance of the right temporo-sphenoidal lobe was ploughed up by blood. Mr. Thompson alluded to the rarity of such cases and to the difficulty of diagnosis.—Dr. S. BONTOR mentioned a similar case, that of a female child who on rising in the morning felt giddy. When seen shortly afterwards she was dull and had vomited. There was no evidence of paralysis or of cerebral irritation. The patient died the same evening. Post mortem there was found a large hæmorrhage on the right side of the brain which had opened into the ventricle.—Mr. BRINDLEY JAMES also alluded to a like case in a boy.—Dr. W. COLMAN said cerebral hæmorrhage in early life was very rare, and the records of the Children's Hospital in Great Ormond-street had scarcely any cases in them. He had, however, seen one case associated with ulcerative endocarditis.—Dr. J. D. MORTIMER said he knew of one specimen in the Great Ormond-street Museum. He mentioned various causes of cerebral hæmorrhage which might occur in children—viz., asphyxia, purpura, miliary aneurysms, and chronic nephritis.—The PRESIDENT mentioned some details of three cases which had been brought before the Pathological Society, in two of which the hæmorrhage appeared to have been venous in origin, while the third was a case of infantile scurvy.

Dr. H. J. DAVIS next read a paper on Gunshot Injuries in the late Greco-Turkish War, and illustrated it by a description of cases and by specimens of projectiles. Having alluded to the various forms of bullets used on both sides in the recent war he proceeded to describe the characteristics of the wounds formed by each. There was but little damage done in many cases by the rifle bullets of the Mauser type owing to their great velocity. Shell wounds were likely to be the most lacerated. He averred that there was great difficulty in diagnosing the presence of a fracture in many cases, probably owing to the fact that such was only partial in most instances, the bullets passing clean through. Wounds of the upper extremity seemed to cause much less trouble than those of the lower limb. Wounds of the joints with care and antisepsis by no means always did badly. He mentioned "seton" wounds in which the bullet traversed an extent of tissue close beneath the surface, and advocated that these should be freely opened up and cleansed. Thoracic and abdominal injuries were severe in most cases, and only one soldier was operated on by laparotomy, he being alive when brought in. One case of acute emphysematous gangrene was prevented from infecting other wounds by careful isolation. He had to thank Mr. F. C. Abbott for allowing him to mention the details of some of the cases under his care.[1]—Dr. THUDICHUM gave recollections of three campaigns through which he had been. He thought modern bullet wounds showed much less contusion than former ones, but that artillery wounds were more serious than they used to be.—Dr. SYMONS ECCLES had been through the Russo-Turkish War, and alluded to the fact that the wounds of that campaign appeared to differ but little from those of the recent war. He would like to know the proportion which the dead bore to the wounded and what influence malaria had upon wounds.—Dr. DAVIS, in reply, said it was impossible to find out accurately the proportion of dead to wounded, but thought that the latter were more numerous. Nearly every man who was injured had a rise of temperature afterwards and many showed signs of malaria.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Presidential Address.

THE first general meeting of this society was held on Oct. 27th at 20, Hanover-square, London, W., the President, Dr. ANDREW S. MYRTLE (Harrogate), being in the chair.

The report of the treasurer was read and adopted, the success of the society's "Journal," which is now almost self-supporting, being especially noted.—Dr. MYRTLE moved that the President-elect, Dr. Wm. Vicary Snow, of Bournemouth), take the chair.—A vote of thanks to the retiring President was moved by Dr. THEODORE WILLIAMS and seconded by Sir RICHARD DOUGLAS-POWELL, Bart.—In his reply Dr. MYRTLE emphasised the fact that practitioners at health resorts were not antagonistic to the general practitioner, but were desirous of working with him, or rather under him and after him.—A vote of thanks to Dr. Hyde, the editor of the "Journal," was moved by Mr. BLAKER (Bognor), supported by Dr. LEWIS (Folkestone), and acknowledged by Dr. HYDE.—Dr. MYRTLE, jun., moved, and Dr. GAGE BROWN seconded, a vote of thanks to the treasurer, the council, the secretaries, and auditors, which was acknowledged by Mr. KEETLEY, Mr. WARD-HUMPHREYS (Cheltenham), Mr. MACFARLANE (Brighton), and Dr. SUNDERLAND.

The first ordinary meeting of the session was then held, the President, Dr. W. VICARY SNOW, being in the chair. Sixteen candidates were elected fellows of the society.

[1] Mr. Abbott's cases will shortly be published in THE LANCET.

Dr. SNOW delivered his Presidential Address, in which he described the climatic features of Bournemouth, with special reference to the effect of the pine woods on diseases of the lungs.

Dr. BAGSHAWE (St. Leonard's) moved, Dr. IVOR MURRAY (Scarborough) seconded, and Dr. MYRTLE supported a vote of thanks to the President for his address.

A motion was then submitted by Mr. ALFRED HAVILAND advocating the establishment of a chair of Medical Climatology and Geography. This having been seconded by Dr. THEODORE WILLIAMS and supported by Dr. CLIPPINGDALE was carried, and the Council was instructed to consider the matter and take such steps as seemed desirable.

HUNTERIAN SOCIETY.

Exhibition of Cases.

A CLINICAL meeting of this society was held at the London Institution on Oct. 27th, Dr. G. E. HERMAN, the President, being in the chair.

Sir HUGH BEEVOR showed a case of Congenital Heart Disease in a youth aged twenty-one years, in which he considered the physical signs as indicative of a patent ductus arteriosus.

Dr. J. H. SEQUEIRA showed a case of Congenital Heart Disease in a child aged ten years who exhibited signs of arrested physical development. He also showed a case of Chronic Hydrocephalus in a girl aged eleven and a half years with marked arrest of mental and physical development.

Dr. F. J. SMITH brought forward a case of Proptosis in a woman who had been under observation for two years. There was also congestion of the conjunctiva on the outer side of both eyes, with œdema of the eyelids and enlargement of the veins.

Mr. A. H. TUBBY exhibited a case showing the Removal of the Left Half of the Tongue, Left Submaxillary Gland, and Left Anterior Pillar of the Fauces for epithelioma of four months' duration. The patient was a man aged fifty years and he had made an excellent recovery.

Mr. COTMAN exhibited the Radiograph of a case of Disease of the Left Ankle-joint; the patient also was present.

Remarks on the cases were made by the PRESIDENT, Dr. HINGSTON FOX, Mr. TUBBY, Dr F. J. SMITH, Dr. GLOVER LYON, Mr. RAWES, and Mr. GROGONO.

LIVERPOOL MEDICAL INSTITUTION.

Dissecting Aortic Aneurysm. — Thyroidectomy. — Sporadic Cretinism — The Immediate Correction of Deformity in Pott's Disease.

A MEETING of this society was held on Nov. 4th, Dr. RICHARD CATON, President, being in the chair.

Dr. GLYNN narrated a case of Dissecting Aortic Aneurysm. The patient, a man aged thirty-four years, died from dissecting aneurysm of the aorta. Dr. Glynn also exhibited the specimen, which showed that the whole of the thoracic and abdominal aorta was involved. The patient had suffered from infective endocarditis at the age of fourteen years, and had since been the subject of aortic regurgitation. During life the symptoms of mitral stenosis were present, but post mortem no mitral stenosis was found. The man died from dissecting aneurysm rupturing into the pericardium.—Dr. A. C. E. HARRIS and Dr. CARTER made comments on the case.

Mr. F. T. PAUL read notes of a case of Partial Thyroidectomy for Parenchymatous Goitre, which ended fatally two and a half days after operation from thyroidism. From this and other cases he concluded that the symptoms described were due to the absorption of an excessive amount of thyroid secretion through the wound. He advised that the gland should be handled gently during the operation and that the isthmus should be ligatured before being severed. If the symptoms still supervened the wound should be laid entirely open, irrigated, and filled with antiseptic gauze, which must be changed as often as it became moist.—Dr. ALEXANDER and Mr. RUSHTON PARKER made some remarks.

Dr. ABRAM read notes of a case of Sporadic Cretinism with a Note on the Nitrogen Excretion. The patient, a girl aged fourteen years, had suffered from cretinism for about two years. He administered thyroid extract for six weeks, in which time the patient increased one and a quarter inches in height. He considered that the administration of thyroid extract increased metabolism as shown by the larger excretion of nitrogen.—Dr. CARTER remarked that if waste from any cause occurred, such as excessive labour, &c., the output of nitrogen was immediately increased. This child, like all myxœdematous patients taking thyroid, lost weight; but he was unable to see that the determination of the total nitrogen proved that the action of the thyroid on metabolism was direct any more than the mere fact of the loss of weight proved it.—Dr. STANLEY GILL, Dr. GLYNN, and Dr. P. DAVIDSON made comments upon the case.

Mr. ROBERT JONES read a paper on the Immediate Correction of Deformity in Pott's Disease, illustrated by lantern slides. He had operated on a very large number of cases since July with results which had exceeded his expectations. Sufficient time had not elapsed to allow him to advocate so bold a procedure with any degree of dogmatism. However, with ordinary precautions no immediate ill-effects followed. He had no case of abscess, no case of disseminated tubercle, and none of paraplegia. Where paraplegia had existed the extension and pressure had either improved or cured it. He pointed out the tendency to bony ankylosis in caries of the spine which was not found in tubercle of other joints. This inspired the hope that the separated vertebræ would become firmly united and that the danger of the so-called gap might prove illusory. The cases showed the disease in various regions and some of them exhibited great deformity. The duration of some extended over several years. After describing Calot's method of reduction Mr. Jones adversely criticised the plaster corset and advocated a splint so constructed as to keep the spine in lordosis. He found that the curves best suited to obliteration were those occurring in the young where the disease was active and where the angle of deformity was changing. The curves most easily reduced were those involving several rather than few vertebræ and those situated in the dorsal region.—Mr. R. W. MURRAY said that he had operated upon fourteen children, whose ages varied from two and a half to nine years. They were all selected cases, the children, apart from the spinal trouble, being in good health. The immediate results had been entirely satisfactory, but in one case where the disease was in the upper dorsal region weakness of the upper limbs and exaggerated knee-jerks appeared one month after operation. He drew attention to the high mortality of tuberculous disease of the spine amongst the poor and also to the remarkable absence of the formation of new bone. This being the case he feared that the gap formed between the bodies of the diseased vertebræ after the forcible correction would not be filled up by bone sufficiently strong to bear weight. Should this prove to be the case the patient would have to rely indefinitely upon instrumental report or have a return of the "hump-back." While this method of operating was still in the experimental stage he intended to rest content with what he had already done and to await further results. In the immediate future he would operate only on cases in which paralysis existed.—Mr. RUSHTON PARKER said that he had performed this operation both with and without an anæsthetic; in the latter case there did not appear to be much pain caused by the proceeding. He considered the Thomas's double hip splint a great improvement upon the plaster jacket. He looked forward with hopeful interest to the application of Calot's method. — Mr. THELWALL THOMAS drew attention to the fact that forcible interference with tuberculous bone disease did not produce paralysis, abscess, or dissemination of tubercle—three theoretical "bogies" which had been handed down from text-book to text-book. Recent experience in forcible dealings with joint disease gave surprisingly good results, and he felt sure that permanent success would follow a large number of cases treated by Calot's method.—Mr. GEORGE HAMILTON pointed out that in estimating the amount of improvement in paralysed cases after Calot's method had been used it was important to recognise that many such cases recovered from the paralysis under the classical methods of treatment. He could quote many such in his own practice.—Mr. A DAVIES thought that the operation was not justifiable except in carefully selected cases.—Dr. GLYNN, Dr. STANLEY GILL, Mr. NEWBOLT, and Mr. SHELDON also took part in the discussion.—Mr. R. JONES replied.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—Intradural Tumour of the Spinal Cord.

A MEETING of this society was held on Oct. 26th, Dr. SINCLAIR WHITE, the President, being in the chair.

Mr. PYE-SMITH called attention to a valuable method of Using the Electro-magnet for the Detection of Steel or Iron Foreign Bodies, whether small enough to be extracted by it or not. The method consists in attaching the magnet by means of a transformer to the wires for the supply of electric light by an alternating current. When thus used a vibratory sound is heard when the magnet comes in contact with the foreign body, continuing as long as the contact lasts.

Mr. DALE JAMES showed (1) a case of Pityriasis Rubra (Hebra) which had improved greatly under his treatment; and (2) an Anomalous Case of Ichthyosis.

Mr. HERBERT HALLAM showed (1) a Photograph of a case of Bilateral Herpes Zoster Faciei; and (2) a Large Peri-nephritic Sarcoma.

Dr. WILKINSON gave particulars of a successful case of Suprapubic Cystotomy with immediate Suture of the Bladder.

Mr. ARCHIBALD CUFF showed a patient on whom he had performed Intestinal Resection and End-to-end Anastomosis for Sarcoma two months ago. The man was subjected to two operations. The first included the cutting away of the growth which was found in a hernia and the formation of an artificial anus. The second, performed some months later, consisted of opening the abdomen, resecting the two ends of the bowel, and end-to-end apposition. The anastomosis was performed with the help of Mayo Robson's bone button.

Dr. BURGESS read notes of a case of Intradural Tumour of the Spinal Cord. The growth, a sarcoma, ovoid in shape, with diameters of 1 inch and ¾ inch, was situated in front of the cord about the level of the attachments of the roots of the fourth dorsal nerve to the cord. The chief symptoms were burning pains in the legs, which gradually extended up the abdomen, loss of power beginning in one leg, extending in the course of three or four weeks to the other and ultimately becoming complete in both, rectal and bladder trouble with signs of cystitis and pyelo-nephritis. The most striking feature of the case, however, was marked dissociation of sensations of heat, pain, and touch which began in and was most pronounced in the legs, but extended up to the fourth costal interspace. The sensation of touch was not much impaired, that of pain was greatly impaired, whilst thermic sensibility was absolutely lost in the legs.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases.—Pasteur Anti-rabic Treatment.

THE first ordinary meeting of this society was held on Nov. 3rd at the Medical Institute, Birmingham, Mr. J. W. TAYLOR, President, being in the chair.

Dr. HAZELWOOD CLAYTON showed five members of a family of Hæmophiliacs—viz., two boys, their mother, their uncle, and their maternal grandmother. The family history exemplified the law governing the inheritance of hæmophilia—viz., that the disease is transmitted through the female line to the male children although the females themselves escape. In other words, the sons of the daughters suffer. The great-great-grandmother had seventeen children, seven of whom were boys, and all bled to death; her daughter (the great-grandmother) had sixteen children eight of whom were boys, all bleeders, and seven bled to death; the grandmother (daughter of the above) had sixteen children, six of whom were boys, all bleeders, and only two are living; the mother (daughter of the above) had five children, three of whom were boys, all bleeders. The above history also shows the extreme fecundity of the female members of hæmophiliac families.

Dr. DOUGLAS STANLEY showed a specimen of Tumour of the Middle Lobe of the Cerebellum. The patient was a girl, aged twenty-three years, who had suffered from occipital headache and vomiting for ten weeks. There was no optic neuritis. There was some giddiness at times, but no paralysis of any kind, and the reflexes were unaltered. Breathing failed suddenly, and artificial respiration was kept up for twelve hours, after which the heart's action ceased.

Professor ALLEN read a paper entitled "Personal Experience of the Pasteur Anti-rabic Treatment." He recounted his impressions of the Pasteur Institute in Paris. He gave details of the treatment, including the method of preparing the immunising fluids. He described the constitutional effects of the inoculations and gave the latest statistics of the results of the treatment.

Reviews and Notices of Books.

Archiv für Pathologische Anatomie und Physiologie und für Klinische Medicin. Herausgegeben von RUDOLF VIRCHOW. Band CL., Heft 1. (*Virchow's Archives.* Vol. CL. Part 1.) Berlin: G. Reimer. October, 1897.

THE commencement of the 150th volume of his world-known *Archiv* must be a source of great pride and pleasure to the eminent founder of this famous journal; and very fittingly his portrait is placed as a frontispiece to the volume. Professor Virchow himself contributes the opening article, "Unser Jubelband," in which he states that the prospectus of the first number is dated April, 1847, and since 1852, when his original co-editor, Professor B. Reinhardt, died, he has himself been solely responsible for the conduct of the journal. How well he has acquitted himself of his task the series of volumes, which contain many of the most noteworthy contributions to medical science during these fifty years, eloquently testifies. He claims, and with justice, that the guiding principle of his work has been the introduction into pathological study of biological methods and the dethronement of all so-called "systems." To one whose retrospect goes back for half a century it may well seem that pathology has been revolutionised; and undoubtedly the leader of this changed method of the study of pathology is Rudolf Virchow himself, who we trust may long be spared to guide and control the work of building up the science of medicine on the firm and broad foundations which he had so great a share in laying. The number of the *Archiv* before us contains: (1) The text of Professor Virchow's address at the Moscow Congress on the Continuity of Life as the Basis of Modern Biological Doctrine; (2) An interesting paper on the Experimental Production of Amyloid Degeneration, by Dr. Carl Davidsohn, the agency used being injections of cultures of staphylococcus pyogenes aureus; (3) Fungi and Fungus-poisons in the Brain and Spinal Cord, by Dr. J. Seitz; (4) the Pathological Anatomy of the Malpighian Bodies of the Kidney, by Dr. A Böhm; (5) Tumours of the Submaxillary Gland, by Dr. G. Löwenbach; (6) the Mechanism of Closure of the Urinary Bladder, and Urination, by Dr. E. Rehfisch; (7) a further contribution to the study of Pneumothorax, by Dr. Sackur; (8) the Connexion of Section of the Vagus with Degeneration and Inflammatory Changes in the Heart-muscle, by Dr. A. Hofmann; and (9) the Quantitative Estimation of Glycogen in the Liver, by Dr. A. E. Austin, of Boston, U.S.A.

Sleep; its Physiology, Pathology, Hygiene, and Psychology. By MARIE DE MANACÉINE (St. Petersburg). London: Walter Scott, Limited. (The Contemporary Science Series.) 1897. Pp. 341. Price 3*s.* 6*d.*

THE problems of sleep have exercised many minds, but have perhaps received more attention from the public than from medical men. The book now under consideration is written in rather a popular style but yet in a truly scientific spirit, and will doubtless be read with interest by all who enjoy the study of an enticing subject. The authoress has evidently given much time and attention to the compilation of this volume and is certainly to be congratulated on the

success of her endeavours. That she is much in earnest is shown by her opening words: "It would be difficult to find any aspect of life towards which so much injustice and ingratitude have been shown as towards sleep, for not only do we profit continually by all the benefits of sleep, but even above them; yet we pay no attention to its phenomena and do not even include it among the questions deserving of serious study."

The Physiology of Sleep is fully dealt with, all the principal theories with regard to its causation being fully examined. The authoress, however, is not satisfied with any of those hitherto propounded and prefers to evolve one of her own. She states: "We have already seen that an arrest of consciousness may always be observed in the sleeper, and if we wish to understand the nature and causation of sleep on the psychic side we must study consciousness itself. From this point of view the cause of sleep may be stated in the formula: Sleep is the resting-time of consciousness." Many interesting facts are brought forward in favour of this theory, both from observations in animals and in human beings.

The chapter on the Pathology of Sleep is also well written, showing a considerable amount of original study. The subject is roughly divided into two sections; in the first sleep is "weakened," that is to say, there is insufficient sleep, and in the second we have the condition of "narcolepsy" or prolonged and abnormal sleep. Such sleep for the most part only occurs in isolated cases, but it is sometimes found in various countries as an endemic disease, being there known as the sleeping sickness, hypnosia (Dangain), and by various other names. Automatism and Somnambulism naturally receive their share of attention; likewise hysterical somnolence and double personality.

The Hygiene of Sleep is also well thought out. One theory contained therein strikes us as being rather novel—namely, that anæmia in young girls is due to albuminuria caused by prolonged sleep, so that in the treatment of that condition it is desirable to diminish the time devoted to sleep, and also to avoid too prolonged retention of the urine during the night. We should have preferred the view that drowsiness is a symptom rather than a cause of anæmia. The final division of the book deals with the Psychology of Sleep. The care which has been bestowed on the writing of the book is shown by the copious bibliography given at the end of each of the chapters.

LIBRARY TABLE.

Transactions of the Reading Pathological Society. Vol. I. Fifty-fourth Session, 1895-6. Edited by the President and Honorary Secretaries. 1896. Reading: Beecroft and Alexander. Pp. xxx. and 124.—When on Oct. 20th, 1896, the Pathological Society of London celebrated the Jubilee of its formation an address of congratulation was received from the only pathological society in England which was older than itself, and that was the Pathological Society of Reading. Founded on July 13th, 1841, it has maintained a vigorous existence for more than fifty years, and at last has determined to issue a volume of Transactions. Very much good work must have been done in those fifty years, if we may judge of it by a *résumé* which is prefixed to the present volume, though naturally some of the treatment advised in the papers read in the earlier years of the society is somewhat out of date; thus in one paper free bleeding was recommended before and after ligaturing the innominate artery for aneurysm so as "to prevent the disturbance of the circulation which follows on tying so large a vessel." The meetings are held at the Royal Berkshire Hospital, where the society has a museum and a library. The meetings take place monthly, except in August, on the Wednesday nearest the full moon—we presume in order that the members may have the benefit of the moonlight in returning to their homes. Living specimens and "card specimens" are exhibited at each meeting and papers are read. In this volume of Transactions are many papers of great interest, and we will refer to some of those which appear to us to be of most importance. Dr. A. Ashby has an article on the Relation of the Public Health Service to Pulmonary Consumption, in which he discusses the question, "Should Consumption be made Notifiable?" Dr. Ashby as medical officer of health for the Reading Urban District had been asked to advise the sanitary authority on this point, and in his reply he stated that he did not advise the compulsory notification of the disease, but thought it would be of great value if rooms and bedding were disinfected after deaths from phthisis. In his paper he urges that there should be inspection of slaughtering, so that diseased carcasses might be recognised before the viscera have been removed. The value of tuberculin in the diagnosis of tuberculosis in dairy cows is acknowledged, and Dr. Ashby considers that in many ways the Public Health Service may do much to restrict the prevalence of tubercle in the human race. Mr. Hastings Gilford contributes a paper in which he strongly advocates the earlier getting up of patients after labour; in fact, he objects to the name "patients" as erroneous and points out that the quickened circulation which results from sitting and standing is in favour of the early involution of the uterus, and he quotes the opinion of Dr. Charles White, of Manchester, who wrote at the end of the last century in support of his contention. Dr. C. W. Marriott describes five cases of Nerve Lesion which he had under his care in the Royal Berks Hospital; the first case was one of paralysis of both musculo spinal nerves apparently due to cold; paralysis of this nerve on both sides is rare, except when due to the use of crutches. Another case was one of facial paralysis apparently due to syphilis and disappearing rapidly under the administration of potassium iodide. Dr. J. B. Hurry describes a case of Addison's Keloid occurring in a young man, nineteen years of age. Two papers on Anæsthetics are in the volume. In one Mr. J. H. Walters describes two cases of death from chloroform and one in which recovery occurred; in one of the fatal cases and in the non-fatal case the failure of the pulse was markedly earlier than the failure of respiration. In the other paper Dr. G. Stewart Abram endeavours to discover the safest anæsthetic, and decides that ether is unquestionably safer than chloroform. Mr. Gilford gives notes of eight cases of Dwarfdom (we must acknowledge that we have never met with this word before); one of the cases he had observed himself, and the accounts of the others are culled from other writers. He suggests that certain dwarfs are the subjects of a definite disease, characterised by the partial atrophy of those structures which are hypertrophied in acromegaly; one valuable argument advanced is found in the case of a dwarf named "Princess Josepha," whose sister was 6 ft. 8 in. high, and was the subject of acromegaly. It is a little confusing in this paper to find some of the measurements given in centimetres and some in inches; it would be much better to give both forms. Dr. J. A. P. Price contributes an interesting case of Chronic Intestinal Obstruction due to Constriction of the Small Intestine by Meckel's Diverticulum, the obstruction due to this cause being nearly always of the acute variety. The volume concludes with a paper by Mr. Treves, on the Surgery of the Peritoneum, which was read before the society in October, 1896. We have dealt somewhat fully with the contents of this book as it is the first attempt at publication made by a society which has existed so many years and done so much good work. We hope to see the volumes of Transactions appearing regularly every year.

Official Reports of the Republic of Costa Rica.—Among the official reports recently presented to the members of Congress of the Republic of Costa Rica there are two relating to the National Institute of Hygiene in San José, the metropolis. The work of this establishment during the past year included a considerable number of chemical analyses as well as many histological and bacteriological examinations of urine, fæces, sputum, tumours, &c. Larvæ and ova of the ankylostoma duodenalis were discovered in five out of sixteen samples of fæces. The institute is amply provided with apparatus for the production of the Roentgen rays and for micro-photography. Dr. Emilio Echeverria, the director, mentions incidentally in his report that at the ordinary pressure at San José water boils at 95° C. (203° F.), a circumstance which of course shows that the town is situated at a great elevation. In connexion with the institute there is a department, presided over by Dr. Bojas, for the preparation and inoculation of anti-leprous serum.

Proceedings of the Society for Psychical Research. Part 32. Vol. XIII. July, 1897. London: Kegan Paul, Trench, Trübner, and Co. Pp. 282. Price 3*s.* 6*d.*—This book is an elaborate treatise on the use of the divining rod as a means of discovering underground water. The author, Mr. W. F. Barrett, Professor of Experimental Physics in the Royal College of Science for Ireland, states (p. 2) that it was with great reluctance that some six years ago he began to investigate the matter. Ultimately, however, he arrived at the conclusion (p. 24) that "the movement of the rod is not due to trickery nor any conscious voluntary effort, but is a more or less violent automatic action that occurs under certain conditions in certain individuals," and he became so convinced of the utility of the practice that if he had to sink a well he would (p. 240) "prefer to have the spot selected by a good dowser rather than general advice given by a geologist, provided that the depth of the well did not exceed, say, fifty feet." About 200 pages of the book are occupied with reports of the proceedings of various water diviners, dating for the most part since 1880. By far the greater number of the predictions were verified by subsequent digging or boring, but several failures as well as much adverse criticism by geologists are recorded. The very copious data collected by Professor Barrett will no doubt be appreciated by those who take an interest in this mysterious question.

Messrs. Raphael Tuck and Son's greeting and other cards and booklets for the forthcoming Christmas season are again up to the high standard of excellence for which their productions have been deservedly famed in the past. The interchange of pleasurable compliments is rendered the more delightful when they can be accompanied by souvenirs which may justly be termed works of art, and which will themselves be prized for their intrinsic worth apart from their sentimental value. Amongst so much which is so good it is difficult to single out any particular pieces for special mention, but the panel pictures, the Woodland Studies by Frank Hines, the Turner Portfolio, the Ryland Portfolio, and Yeend King's Four Studies by Brook and Meadow are especially worthy of mention. Nor are the children forgotten: there are many enjoyable pictures to amuse them.

JOURNALS AND REVIEWS.

Practitioner.—In the November number Dr. H. D. Rolleston describes a puzzling case in which latent ulcer of the pylorus with jaundice simulated malignant disease. The patient was a man, aged twenty-seven years, who died ten days after admission to St. George's Hospital. Mr. Henry Strachan, senior medical officer of the Public Hospital, Jamaica, has an interesting paper on a form of Multiple Neuritis prevalent in the West Indies. The symptoms complained of are numbness and cramps in the hands and feet, dimness of sight, a tightness round the waist, and occasionally impaired power of hearing. The main nerves to the extremities are very tender on pressure especially the ulnar nerve, and along the distribution of their terminal filaments they may be tracked by lines of fine herpetic vesicles. Some of the nerves of special sense are also involved, principally the optic nerve, the affection of which is most frequently retro-bulbar. The muscles of the limbs will waste until the "claw" hand and foot are marked features. Recovery from all the symptoms is the rule. Mr. Strachan considers that the disease is due to the poison of malaria. There are three other original communications. The "Hero of Medicine" this month is Theodor Schwann.

Caledonian Medical Journal.—Dr. Alastair MacGregor, of Shepley, Huddersfield, continues in the October number his remarkable paper on Second Sight, the first part of which has already been noticed in THE LANCET of July 31st, page 258. He describes six cases, four of which were instances of death that came under the observation of his father, a clergyman in the island of Skye, the antecedent phenomena being as follows: (1) a woman saw a vision of her son falling over a rock; (2) a man heard an unearthly cry, twice repeated, proceeding from the direction of his neighbour's house; (3) three men in a coasting vessel were cursed by an old woman, after which as the vessel sailed away a peculiar, black-looking cloud was seen hovering in the air over it and was recognised by fisherpeople on shore as presaging disaster, which seems to have taken the form of an unaccountable murder; and (4) a woman saw a very brilliant light on a funeral pall, which was spread on a table, and in the middle of the light the image of her niece's face. Two of the other articles in the journal, entitled respectively the "Macbeths of Islay" and "Medical Heroes of the 'Forty-five," are historical and biographical.

The Monist.—Professor Ernst Mach, of Vienna, contributes an important physiological paper on the sensations experienced during rapid movement and change of position. It is headed "On Sensations of Orientation" and describes numerous observations made by Professor Mach on himself whilst seated in a rotating chair or lying on a board rotating in a horizontal plane. He considers that all the parts of the labyrinth are not auditory in their functions, but that the cochlea is reserved for sensations of tone and the semicircular canals for the sensation of rotation or angular acceleration, the nerves of the ampullæ being excited by the pressure of the fluid contents of the canal under the influence of inertia; he makes the further suggestion that the vestibule, particularly the portion of it known as the sacculus, is the organ of sensation of forward acceleration or of the position of the head. There are five other original articles.

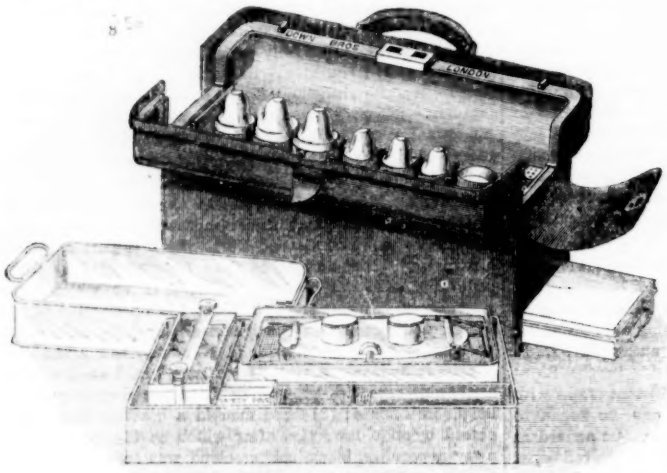
WE are requested by the publishers, Messrs. Dawbarn and Ward, 6, Farringdon-avenue, E.C., to call attention to the fact that typographical inaccuracies appear in a book recently sent out by them for review entitled *Chemistry for Photographers*, by Mr. C. F. Townsend. The errors are being corrected. All persons who have obtained copies before Nov. 4th and who return them at once will receive revised copies in their place.

THE BRITISH ASSOCIATION.—At a meeting of the general committee of the British Association held in London on Nov. 5th Sir W. Crookes, F.R.S., was elected President for 1898, the vice-presidents being the Mayor of Bristol, the Bishop of Bristol, the Earl of Ducie, Sir E. Fry, Sir F. Bramwell, Mr. J. Beddoe, M.D. Edin., F.R.C.P. Lond., Professor Bonney, and Professor Lloyd Morgan. It was decided that the meeting in Bristol should be held on Sept. 7th, 1898.

New Inventions.

A SURGICAL BAG.

To the surgeon whose operative skill is in constant demand few things are of greater usefulness than a thoroughly well-made and serviceable bag in which to carry his instruments, dressings, sterilising apparatus, and ligatures.

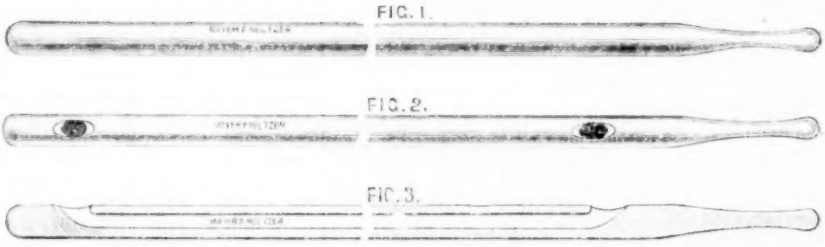


The essentials of such a bag are: (*a*) strength and durability of material throughout; (*b*) simplicity of construction, especially avoidance of too numerous and complicated fittings; and (*c*) portability consistent with the two former essentials. Messrs. Down Bros. have given this subject much attention, and with a few suggestions from myself and others a bag has been evolved which admirably answers the purpose. The main features of this bag are: (*a*) on opening, an easily removeable tray with sterilising apparatus, a glass-covered and aseptic ligature-holder, drainage-tubes, iodoform dredger, and safety pins; (*b*) nail-brush and soap in metal boxes, and a few stoppered bottles in boxwood cases; and (*c*) a large space below for instruments, &c., with pocket inside, and at one end a small outside pocket with metal receptacle for dressings. Neatness and tidiness, scrupulous cleanliness, and minute attention to all details are invaluable qualities in a good surgeon, and to those who wish to foster and enlarge these qualities the surgical bag will be found an additional impulse for doing so.

N. HAY FORBES, F.R.C.S.Edin. (Exam.).
Drumminor, Tunbridge Wells.

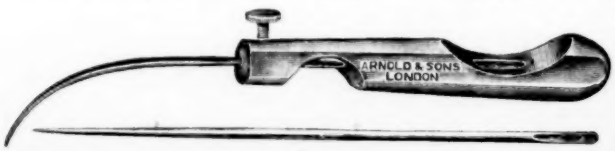
REVERSIBLE CATHETER AND BOUGIE IN ONE.

WE have received from Messrs. Mayer and Meltzer, of Great Portland-street, a specimen of a new form of catheter. Each end of the instrument having an eye enables it to be used as a catheter or bougie. At will each instrument may thus comprise either two catheters or two bougies of the same form and size, and if the surgeon introduces either end alternately the instrument will last much longer than one of the ordinary non-reversible description. Again, each instrument may be a combination: one end of the instrument may be a catheter *à boule* or a bougie *à boule* and the other end may be a catheter or a bougie of the blunt-ended form. Two different sizes (as well as forms) may also be combined in one catheter or one bougie. The "reversible" instruments are made of rather greater length than those in general use, which provides for the contingency of one end of the instrument being rendered unserviceable through the eye becoming rough; and, moreover, if the reversible catheter is to be employed for washing out the bladder the surgeon has merely to remove one end with a knife and he then has an ordinary catheter of the usual length to which to attach tubing, &c. The instruments have the advantages that space is economised and that, as the catheters are solid-tipped, they are more readily dried internally after use, and are therefore less likely to deteriorate.



A NEW NEEDLE HOLDER.

I WISH to bring to the notice of the profession through the columns of THE LANCET a new needle-holder devised by Dr. Christian Branch and myself and manufactured by Messrs. Arnold and Sons. The advantages claimed for this pattern of holder are:—1. It can carry with equal facility a small suture needle or the long abdominal one. 2. Needles can be threaded with ease after being fixed in the holder before the introduction of the needle through the tissues. 3. It dispenses with the necessity, consequent on the use of a long needle with a handle, of being passed by one movement through the tissues, then threaded at the point, and, thirdly, drawn back; for one has only to loosen the screw and the needle, already threaded, can be drawn onwards by the other hand.



W. J. BRANCH, M.D. Edin.
Basseterre, St. Kitts.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 13, 1897.

WE have had an opportunity of reading the report of the Sub-committee appointed by the British Medical Association to consider the question of advancing Army medical reform, together with its appendix. These documents have been prepared for the Parliamentary Bills Committee of the British Medical Association, and they not only furnish a comprehensive summary of the causes which have led to the present condition of the Army Medical Staff, but state the case of the medical officers very ably and lucidly. To discuss the whole subject fully would be tantamount to reprinting much of the report itself with a running commentary thereon, and that we cannot do. Nor is it necessary, for all who are interested in the matter are already familiar with the facts, while many of our readers have also studied the report itself and would not require to peruse its text again. It seems fitting and pertinent to the occasion that we should briefly allude here to the part which THE LANCET has taken in army medical reform. Very many years ago, when the so-called scheme of "unification" was in the air and its merits were being weighed in the scales with those of the regimental system, THE LANCET suggested and advocated the formation of a Royal Corps of Surgeons or Royal Medical Staff Corps, which should take its place with the other scientific branches of the service and be organised on lines analogous to those of the Royal Engineers, the medical officers retaining, of course, their then existing ranks and titles. The powers and functions of such a medical corps were to be strictly circumscribed within the limits of its legitimate duties and responsibilities. All that appertained to the care of the sick and wounded soldier and to the whole hospital service were to belong to it, while it formed no necessary part of the scheme that medical officers should not continue to do duty with their regiments. To a certain extent, of course, a medical journal holds a brief for the medical side of every question, but it should claim to advocate what will work for the dignity and well-being of the profession as a whole, and not of any particular section of it. We have always maintained that what is best for the public and the public services is best for the profession, and that every honestly contentious question should be frankly and fairly considered on its merits and not merely in the spirit of the advocate sympathetically and exclusively influenced in one direction.

With the greater number of suggestions in this report we are in cordial accord, and that they are reasonable—indeed, unanswerable—is attested by the fact that the War Office authorities have, we believe, already conceded a good many of them. It is ridiculous to suppose that young and highly qualified medical men of the present day will be content with what obtained in the past under very different conditions. The cost of the medical curriculum has greatly increased, and the medical profession is recruited from men of higher literary and scientific culture and a superior social plane than was formerly the case. The army should, it would be thought, attract its share of men of this higher stamp into its ranks, but it fails to do so—indeed, it fails to attract enough men for its bare needs in a time of comparative calm. The army medical service is seriously discontented, and as a consequence candidates for its ranks are few. It is not a question of pay, for medical officers are satisfied with their present rates of pay and pension. But man does not live by bread alone; and here we approach the crux of the matter. Medical officers urge, among other reforms, that the grant of army rank and military titles in a consolidated army medical corps is the most pressing need at the present time for the restoration of confidence and contentment. When the suggested organisation of a Royal Medical Corps was originally put forward, this question of purely military titles for medical officers had never arisen and would have been repudiated by the medical officers of that day. Great changes have taken place, however, since then, and there can be no doubt that a considerable majority of the medical service are in favour of welding together the Army Medical Staff and the Medical Staff Corps into a consolidated Royal Medical Corps to be officered by themselves under purely military titles. They maintain that this would be at once a reasonable and a comprehensive plan, and they allege a number of reasons why this should be done. Without attempting to enumerate them all, let us take some of them. Their real military rank and status, never altogether certain, were rendered most unsatisfactory by their having been some years ago deprived of relative rank, which was authoritatively stated to have had no real existence and to be a myth, while their present compound titles are confessedly cumbrous and complicated. A department carries less weight and meets with less consideration in the army than a corps. The only rank universally recognised in the army is army rank, and purely military titles have been conferred upon, and are used by, the Army Service Corps and the Pay Department. Medical officers are under discipline and amenable to the regulations and liable to be tried by court-martial; they serve in the field, accompany corps into action, and are exposed to an enemy's fire and to all the risks and dangers of war, in addition to encountering special ones of their own; hence they are and must be considered as soldiers and not as civilians: their functions and duties are composite, often very arduous and very responsible, and not by any means purely medical: and, lastly, it is urged that their experience both in garrison and in the field, and especially on war service, has taught them the essential need, if they are to carry out their work properly and satisfactorily, of having assured military rank and purely military titles, which are the only titles recognised in the army.

These points might be amplified, but such, briefly stated, is the ground taken up by medical officers. On the other hand, combatant officers make out a case something as follows:—If army surgeons desire to be designated by purely

military titles they have entered the army at the wrong portal and their titular distinctions are in reality false and misleading and somewhat inconsistent with the dignity and functions of the profession to which they belong. Their going under fire and sharing all our dangers unquestionably entitles them to share, as they do, in all the military honours and distinctions open to us, but there is a confusion of ideas in their reasoning. Going under fire in the fulfilment of duty and having a right to combatant rank are not by any means conterminous expressions. The whole *raison d'être* of the combatant officer is to command, fight, and kill, in order to defeat the enemy, whereas the *rôle* of the medical officer is to save life and succour the sick and wounded; it is for this that he has been educated, and for this he is specially paid. It is only occasionally and under exceptional circumstances that he has to depart from this *rôle*, and when he does so depart his combatant work is not his sole and special duty, as it is the sole and special duty of a general, captain, or subaltern officer. By all means give him military rank and power commensurate with his grave responsibilities and make his office and position as good and respected as possible, but this will never be done by conferring upon him titles which rightly designate our calling and not his. As regards the army surgeon's position, social standing, and the amount of consideration and respect and the personal regard in which he is held, he occupies exactly the same position in these respects that other officers do. If he is a gentleman and a pleasant fellow and interested in his work he is sure of every consideration, while it is not to be supposed that officers as a body are so oblivious of the interests of themselves, their families, and the soldiers under them as not to prize highly the advantage of having a good reliable man to look after them.

A good deal has been written and said on both sides of the question which was either irrelevant or had better not have been written or said. We have tried to put the two aspects of the case as fairly and dispassionately as we can in order that those of our readers who are not army medical officers may understand the respective views. It is obviously of the greatest importance that the army and navy should possess good medical officers and gentlemen, and that the army should offer such attractions as to secure a number of highly qualified men who are proud of their profession and desirous of succeeding in it by the exercise of their professional skill and attainments. Their duties in military life are, and must be, mixed—those of a soldier as well as those of a surgeon. The past traditions of the medical department are such as the whole profession may be proud of, and illustrations of zeal, bravery, and devotion within its ranks are constantly occurring in the present. We can only repeat that medical officers allege that the time has come when the possession of titular army rank is necessary for their position and the proper discharge of their duties. They ought to know best, and the reason is not clear why they should not be styled captain, major, or colonel of the Royal Medical Staff Corps. We trust that the War Minister will thoroughly consider all they have to say in regard to this and other matters in any action he may take. Lastly, the sooner some action is taken the better for the good of all concerned.

AMONG the many interesting and important subjects which were discussed at the recent meeting of the Association Française d'Urologie under the presidency of M. GUYON, there was none of more interest or of more importance that the modern treatment of hypertrophy of the prostate gland. The consequences of an enlarged prostate, such as retention of urine and consecutive disease of the kidney, may be so grave that for many years surgeons have been seeking for some method by which the hypertrophied prostate could be reduced in size. Urethral prostatectomy was first tried and elaborate instruments, built on the plan of a lithotrite, were invented, and these were intended to seize and tear off a portion of the gland and remove it by the urethra; but they were uncertain and of little value and were soon disused even by their inventors. The suprapubic operation then followed, in which the bladder was opened above the pubes, and portions of the prostate were removed by cutting or by gouging instruments; the results in some cases were fairly satisfactory, but the operation was by no means simple and the hæmorrhage was occasionally very profuse, so that the method was only employed in a comparatively few cases. The next attempt came from a new source. Pathologists have often compared the fibrous hypertrophy of the prostate to the fibromata of the uterus, and though the analogy is an entirely mistaken one, yet it has led to important results. It has long been the custom in certain cases to attempt to prevent the further growth of uterine fibromata by removal of the ovaries; then it was said, Why should we not endeavour to modify the growth of the prostrate by the analogous operation of removal of the testes? RAMM, of Christiania, and WHITE, of Philadelphia, almost at the same time and apparently quite independently of each other, proposed to perform castration as a mode of treating prostatic hypertrophy. They soon acted on the suggestion and found that after removal of the testes the prostate rapidly diminishes in size, voluntary power over the bladder is regained, and the patients are often much improved in health. Sometimes the improvement in micturition is exceedingly rapid, much too rapid for it to be due to organic changes in the substance of the prostate; in these cases it is probable that the relief is due to a shrinking of the prostate from a contraction of its vessels; but atrophy of the gland also takes place even to a remarkable extent in some instances. Yet in all cases the result is not equally favourable. In some the patient is rapidly restored to almost perfect health; these unfortunately form only a comparatively small portion of the cases; in others the improvement is slight at first, but as time goes on the power of micturition increases, though it may never be quite complete; in others the relief is only small, even after the lapse of many months, and in a large number the failure has been absolute. The mortality also after castration for prostatic hypertrophy is by no means small; it has been found to amount to 19 per cent., and though doubtlessly a large portion of this death-rate is to be attributed to causes other than the operation itself, as the patients are often in an extremely bad state of health, yet when full allowance has been made for this the mortality is remarkably

high. A form of violent delirium, sometimes permanent, has also been found to follow the operation in a few cases. CARLIER, of Lille, mentioned at the congress that the operation had been performed in more than five hundred cases; yet we have, unfortunately, no power of saying which case will be benefited by castration and which will not. Vasotomy, or division of the vas deferens for prostatic hypertrophy, was probably first performed by REGINALD HARRISON; certainly in some cases atrophy of the prostate follows the operation, but in very many cases it is an utter failure. It is by no means improbable, and the theory is supported by some experiments on the dog by ALBARRAN and MOTZ, that the atrophy of the prostate which follows vasectomy is really due not to the division of the vas, but to the division of the nerves and vessels of the cord, and "angio-neurectomy" of the cord with preservation of the vas deferens, has been suggested, and has been shown experimentally to be followed by as much atrophy of the prostate as occurs in cases where the whole cord has been divided. It cannot be said that either castration or vasotomy has been established as a perfectly satisfactory method of the treatment of enlarged prostate which is interfering with the outflow of urine. Each method in certain cases gives excellent results, but the failures are many, and with castration at least untoward results are by no means rarely met with. We must come to the conclusion that these methods which have been discovered for the treatment of a most obstinate and troublesome disease are valuable, but that we have yet to learn what are the indications for their employment with certainty of success. At the meeting of the Association Française d'Urology eleven papers were read on castration or vasotomy, and this fact shows how much attention is being directed to this subject at the present time.

IN THE LANCET of Oct. 9th (p. 928) we published a short annotation respecting an inquest that had recently been held at Twerton, near Bath, and we took occasion to compliment the coroner upon the way in which he conducted the investigation and to express the opinion that the verdict of the jury would receive general commendation. In our issue of Oct. 16th (p. 1008) will be found letters from Dr. PRESTON KING and Dr. WILLIAM H. COOKE reflecting on the course we had taken. We think these gentlemen have assumed more than the language we employed would warrant, and hence their strictures appear too severe. As, however, both letters contain most reasonable views on a topic of great interest to the medical profession and the public we think that it will be well to refer to them, even though to do so now has a somewhat belated air. As a matter of fact it can never be a belated action to discuss the subject of medical evidence at coroners' inquests, for it is one of abiding importance.

Dr. KING addressed himself in the main to two propositions: (1) that a second medical man who has not the advantage of having directly possessed himself of the facts of the case but has learned them from the testimony of others is fully competent to give scientific evidence as an expert; and (2) that cross-examination of medical witnesses should be allowed at the coroner's inquisition, as it is in the superior courts. We give an unqualified assent to each of these presentments, but as regards the first we would say that whilst the opinion of an expert witness founded upon facts related by others receives full recognition in proportion to the special knowledge and skill of the deponent, judges are ever and justly cautious in directing juries not to be misled, since there are two factors which tend to vitiate the formation and formulation of a judgment on facts procured in this manner. In the first place, the narration of facts may be faulty; and, secondly, there is the possibility of misinterpretation of what a witness conveyed or intended to convey. We would remind Dr. KING that the coroner's court is one of first instance; that hearsay evidence is to a great extent admissible; and that consequently procedure is not governed strictly by the "laws of evidence" as in the magisterial and superior tribunals. Consequently a special or expert witness is to some extent in the difficulty of not knowing the exact limitation of the facts upon which he has to direct his powers of reasoning. Moreover, the law relating to coroners' inquests does not provide for the cross-examination of witnesses by counsel; in fact, it is entirely within the discretion of the coroner to allow or disallow such method of investigation. This is a salutary provision, in our opinion, for many witnesses would fail to give full testimony of their knowledge if hampered by technicalities incidental to what must be considered as "hostile" examination by counsel.

Dr. COOKE'S communication is to some extent on the same lines as that of Dr. KING, but it touches upon important matters of forensic interest beyond the question of legal investigation. It may be remembered that the person upon whose body the inquest was held was found in a semi-conscious state near his own dwelling. He had a wound at the back of the head and less important ones upon the forehead, the pocket of his flap trousers was exposed, and his keys were found at some little distance from him. At the post-mortem examination made by Dr. HEATHCOTE the heart was found to be dilated and fatty and the organs generally congested. There can be no doubt, as Dr. HEATHCOTE said, that the deceased died from syncope, but another question of the highest importance was whether the cardiac failure had been determined by a blow or injury previously to the fall. Dr. HEATHCOTE, whilst not denying this, was of opinion that the facts on the whole were against this theory. The man stated before becoming unconscious that he had been assaulted. Dr. HEATHCOTE explained this by supposing that a sudden and unexpected pain in the head, or a cardiac pang coeval with cerebral anæmia and faintness, may have been wrongly believed by the deceased to be the result of external violence, and that therefore his statement was not worthy of credit. Dr. COOKE asks, If this were so would he almost in the same breath have accurately told the bystanders where his keys were to be found? We allow that this is both pertinent and relative to the issue. It fully warranted the jury in returning an open verdict as regards the incidence of a blow prior to the proximate cause of death. The fact that a £5 note known to have been in the possession of the deceased has not been traced is, moreover, suggestive of foul play. Clearly there is ample

reason for further police investigation. Whilst regretting that the coroner's inquiry should have led to a difference of opinion between the medical men, we see no reason to alter our previous statement that the coroner is to be thanked for his painstaking care as are the jury for their logical verdict.

Annotations.

"Ne quid nimis."

IRRITABLE HEART AND TRANSIENT MURMURS AS A CAUSE OF REJECTION OF CANDIDATES FOR THE ARMY AND PUBLIC SERVICES.

IN the annual address to the North-West London Clinical Society delivered on Oct. 20th Sir William Broadbent dealt mainly with this subject. He alluded to the hardship which rejection on medical grounds entails upon the young man who has gained a place on the list for admission to Woolwich or Sandhurst and added, "In my judgment this has sometimes taken place on totally inadequate grounds." In illustration he mentioned cases of so-called "irritable heart," cases of bruits heard over various cardiac and pulmonary areas, and also cases of intermittent or cyclic albuminuria, on account of which candidates may be refused their commissions. The candidate with irritable heart has usually been spending long and late hours in study, with restricted exercise and limited fresh air, and with possibly unlimited tobacco. He presents himself for medical examination in a state of extreme nervous excitement. His pulse is rapid and perhaps irregular, his cardiac impulse is violent and may be diffused, even beyond the right sternal border. Murmurs may be heard at one or more orifices and his respiration is short and hurried. He is referred for three or six months, but on again presenting himself before the same examiner the ordeal reproduces symptoms which have been absent in the interim, and he fails to pass. Sir William Broadbent pointed out the importance in such cases of considering the personal history, saying: "It would take a great deal to make me reject the captain of a football team of a large school. ..... Such disturbance of the action of the heart, however exaggerated, is not inconsistent with perfect soundness and efficiency." "A fair test" would be to make the man run a mile round one of the cinder paths at his own pace, noting his time, but especially the period at which he got his second wind, and how he finished up. Sometimes, he added, "a run up two flights of stairs would bring the heart to its senses." A more common cause of rejection is the presence of a murmur which may be perfectly innocent of significance. Such murmurs may simulate closely a soft systolic mitral, but are heard only during inspiration or when the chest is full, and are due to compression of the overlapping lung by the heart during systole. Pulmonary murmurs may depend on bulging of the conus arteriosus against the chest wall; they disappear when the lung is interposed on deep inspiration. Sometimes bruits are heard, not only in the course of the ordinary mitral regurgitant, but over the greater part of the lung. In such cases there is usually pleural adhesion. "I have known such bruits," said Sir William Broadbent, "to be looked upon as indicative of valvular disease, requiring treatment by digitalis and demanding all sorts of precautions in the matter of exercise," and he mentioned the case of an athlete, aged twenty years, who presented a murmur resembling the mitral regurgitant, and also one over the pulmonary area. Apart from the bruits the heart sounds were normal, and in particular there was no accentuation of the pulmonic second sound. The left side of the chest was narrower than the right and moved less on respiration. The condition was probably due to pleuro-pericardial adhesion, and after five months' very vigorous exercise the patient was none the worse. The criterion of pseudo-mitral disease is absence of displacement of the apex beat and of accentuation of the pulmonic second sound, or undue right ventricular impulse, together with absence of symptoms. Restrictions as to games in such cases, except with regard to football, house runs, and training for races, are often needlessly imposed. Other murmurs are heard in the tricuspid area which are perfectly harmless. And such tricuspid bruits are rarely constant. Sir William Broadbent also alluded to dilatation of the heart and intermittent albuminuria. Sir William Broadbent's address should be of great practical value, not only to the authorities on whose fiat appointments to our public services depend, but also to all practitioners who meet with the difficulty of diagnosing organic and permanent from functional and temporary disease.

SANITATION FOR HOPPERS.

THE Maidstone epidemic has, at any rate, had one good result—namely, that of calling attention to the grossly insanitary conditions under which hoppers are compelled to live during the ingathering of the hops. A special correspondent of the *Times* has been investigating the circumstances, and his letter on the subject reveals a state of things which we can only describe as disgraceful. With all our boasted and ruinously expensive system of education, our sanitary organisation, county councils, health boards, and the like, it appears that hops are gathered by a process which for total disregard of decency, sanitation, and cleanliness, to say nothing of the first principles of Christian charity, carries us back to the most immoral period of the eighteenth century. This being so, for a district to put up with the gathering ground of a hop-garden for its water-supply is to invite disaster. To begin with, hops are a very exhausting crop and the ground therefore requires constant manuring. Neither is the manure solely that of animals. Every kind of filth is employed—fish-offal, old woollen rags and waste, street sweepings, and the like are used; and water running off a gathering ground polluted with this sort of stuff is almost sure to be contaminated. But this is only the minor evil, it is the herding together of a mass of human beings, some of them of the very lowest class, under such circumstances as preclude the observance of the most ordinary laws of health which, does the mischief. It must be said that all the hopper houses are not equally bad, for the newer ones are built of wood with iron roofs and are portable; but even these are grossly overcrowded. There is absolutely no sanitary accommodation whatever, and this being so, says the *Times* correspondent, "the most dangerous of all pollutions takes place on the ground." The hop-garden itself is generally used for this purpose; and where part of the Farleigh supply arose the collecting pipes were only 2 ft. below the surface of the ground used by the hoppers. It must not be supposed that we object to house refuse, offal, or excrement being deposited in the fields. The fields are the best and most suitable place for such materials, and earth purification the cheapest and most thorough. What we do object to is the fact that such substances are deposited close to the gathering pipes of a water-supply which is sure to get fouled by these waste products before the kindly earth has had time to render them innocuous. Again, there is no water laid on to the hopper houses, the hoppers are not allowed to get it from the farmhouses, but have to do so where they can. And yet water is laid on to nearly all the hop-gardens themselves. It would be easy to put up

a stand-pipe and so ensure a clean water-supply, but this is not done. It would appear that the primary cause of these horrible abuses is, as in so many other commercial enterprises, the high-pressure race for wealth. In some of the hop-gardens the gathering of the hop-crop is a kind of village festival, there are no imported hoppers, and the result is a small return to the farmer. But in the neighbourhood of Maidstone "it is a great money-making concern, in which the imported hop-pickers are but part of the machinery and of somewhat less account than the rest." Epidemics are hard masters, but possibly the sufferings through which Maidstone is passing will bring about a sincere reform of the present system of hop-gathering. If it is impossible to carry out the harvest on the lines on which it is worked in some places it should be made absolutely compulsory upon the grower to provide a proper supply of water, proper sanitary accommodation of the nature of a latrine, and housing at least as good as that of a stable or a kennel for hounds, and overcrowding should be absolutely forbidden. We suppose we shall be accused of interfering with legal commercial pursuits, but the wholesale poisoning of a neighbourhood is of more importance than the price of beer, and as at present excellent beer can be obtained from Maidstone for something under 2*d*. a pint it would hurt no one to pay 3*d*. for it, and no one would object if he had an assurance that by so doing he was furthering the cause of sanitation, to say nothing of that of humanity. It is right to say that in the *Times* of Nov. 9th appear two letters, one from the Principal of the Agricultural College at Wye, Mr. A. D. Hall, traversing every statement of the special correspondent, and the other signed "Spectator," which avers "that he is strictly within the limits of the truth." After this we may well ask, "What is truth?" and, unlike jesting Pilate, would stay for the answer. The *Times* correspondent maintains his attitude, and his words bear the stamp of accuracy.

BRAIN DESUETUDE.

SPEAKING at Selkirk on the 8th instant, Sir James Crichton-Browne dwelt on the dangers to health involved in indolence and disuse of the brain. The medical profession, he said, adapting itself to the needs of the times, had felt it incumbent upon it during the last decade to insist mainly on the evils of misuse of the brain, on the excessive strain not seldom imposed on it in these days in the fierce struggle of the race to be rich, and more especially on the overpressure imposed on it in the name of education when in an immature state, but they were not less keenly alive to the correlative evils of the disuse of the brain. Elderly persons who gave up business and professional men who laid aside their avocations without having other interests or pursuits to which to turn were in many cases plunged in despondency or hurried into premature dotage. He did not know any surer way of inducing premature mental decay than for a man of active habits to retire and do nothing when just past the zenith of life, and, on the other hand, he did not know any surer way of enjoying a green old age than to keep on working at something till the close. It had been said that one of the rewards of philosophy was length of days, and a striking list might be presented of men distinguished for their intellectual labours which they had never laid aside, who had far exceeded the alloted span of human life. Galileo lived to seventy-eight, Newton to eighty-five, Franklin to eighty-five, Buffon to eighty, Farraday to seventy-six, and Brewster to eighty-four years. Sir James Crichton-Browne drew special attention to the great age generally attained by our judges. Our judges were, he said, men who could never fall into routine, but were called upon, as long as they held office, for mental effort in considering and deciding on the new points and cases which were constantly submitted to them. For the most part they had at one period of their lives undergone some over-strain in the active practice of an exacting profession, and yet they lived to a ripe old age, and were, he believed—notwithstanding the jokes and jibes of hungry aspirants at the bar—more exempt from dotage than any other class of the community. The sustained brain-friction in their case kept that organ bright and polished. These facts, he thought, ought to inspire us with some doubt as to the wisdom of the compulsory retirement and pension *régime* under which we lived. He had known several cases of mental disease induced solely by enforced idleness in men turned out of the public service, and more particularly the army, in conformity with a fixed rule, while still in the prime of life and capable of useful work. On entering the public service a man had to ascend by graduated steps of increasing work and responsibility. Was it not possible to arrange graduated steps of diminishing work and responsibility by which he might descend on leaving it? Much waste and wretchedness might thus be saved. The physiological notion of life was not cruel overpressure at the beginning, penal servitude in the middle, and silly superannuation at the end, but the timely, continuous, orderly, well-balanced exercise of all the functions and faculties with which the being is endowed.

IMPORTANT DECISION AS TO AIR-SPACE IN COWSHEDS.

A VERY important case bearing on the question whether a regulation under the Dairies, Cowsheds, and Milkshops Order of 1885 enables an authority to specify a definite amount of air-space per cow in a cowshed has just been decided. The case is that of Baker *v.* Williams, and it was an appeal from the decision of the magistrates of Southport, which came before the court of Queen's Bench on Nov. 1st. The appellant, a dairyman, contended that a regulation as to air-space could not be made by the town council; that the word "ventilation" in the thirteenth section of the Order did not authorise any requirement as to air-space; that the provisions of no Act of Parliament authorised the Privy Council—now the Local Government Board—to make a regulation as to air-space; and that therefore the Dairies and Cowsheds Order was, in so far as the requirement as to air-space is concerned, invalid. The appellant's strongest point was that whilst in Sections 7 and 8 of the Order the words are "ventilation, including air-space," Section 13, under which the authority make their regulations, omitted the words "including air-space." But both Mr. Justice Wright and Mr. Justice Kennedy decided that in such cases the Order was in effect an Act of Parliament, that the Order and the statute must be read concurrently, and that consequently the authority had power to include the question of air-space when making a regulation in the matter of ventilation. It may be admitted that it would have been more satisfactory if the words relating to air-space had not been omitted from Section 13 of the Order, but it is most satisfactory that the decision is in the direction both of common sense and of the protection of public health. In cowsheds ventilation in its health aspect could not be obtained apart from a regulation as to a minimum amount of air-space; the two go necessarily hand in hand. And in so far as public health is concerned, it is notorious that the want of cubic space per cow, with its consequent crowding of cows together, is one of the most potent factors in conducing to bovine tuberculosis and to spreading that disease from cow to cow. The public as yet hardly realise the danger which children incur from tuberculous milk owing to overcrowding in cowsheds, but we hope some definite pronouncement on this point will be made by the Royal Commission on Tuberculosis, and that the report will contain a distinct condemnation of some of the regulations sanctioning insufficient cubic

space which some authorities have made. The amount of air-space upheld by the Court of Queen's Bench is 800 cubic feet in the present case, and this is the space which the Local Government Board recommend as a minimum. Unhappily, they cannot enforce it.

A GALLANT DEED.

IT is gratifying to learn that Major-General Yeatman Biggs has brought to the notice of the military authorities in India the gallantry of several of the medical officers who distinguished themselves in the action of Uhlan Pass on Aug. 27th last. Among them Surgeon-Captain Beyts has been signalled out for special mention, and his heroic conduct will add still another name to the list of those who at the call of duty have not hesitated to face almost certain death. After attending to the wounded under a heavy fire Surgeon-Captain Beyts, regardless of all consequences to himself, carried the body of Lieutenant North, who had been wounded, down a hill track too steep for a dhoolie, saving the life of the young officer who had become faint and powerless from loss of blood.

THE PAYMENT OF CORONERS' JURIES.

THE debate upon this subject having its origin in the report of the Public Control Committee of the London County Council, to which we referred last week, was resumed on Tuesday last. Sir Henry Poland pointed out that as it was usual to summon twenty-three jurors, and as the payment of only fifteen was provided for under the scheme of the committee, it would be better that the committee should take the matter back for consideration. Mr. Cornwall coincided in this view, on the ground that the suggested payment was inadequate. He said that it was a curious fact that those who could really afford to give their time were usually asked to serve on juries to which a fee was attached, while working men, of whom coroners' juries were largely composed and who should be fairly recouped for consequent loss, received no fee. The report was withdrawn for further consideration, but we hope that the matter will not be allowed to rest.

THE RINDERPEST.

APART from its economic importance, which is great, rinderpest, the extensive epidemic amongst cattle in South Africa, is of extreme interest to the pathologist; and at the Cape a very determined attempt is being made to control the spread of, and the mortality from, the disease by the very latest methods of bacteriology. Attempts to fence off the contagion by forming immense "belts," though for a time successful, ultimately failed to prevent the introduction of the disease. Destroying infected animals was of no more value, and then other methods were employed. The serum method, the bile method, and the glycerinated bile method have all been tried in turn. The objection to the serum method was the large amount required to ensure permanent immunity. The bile treatment certainly conferred immunity for a time; but it was accused of conveying the disease in some cases, and only certain biles could be used. Dr. Edington's glycerinated bile was introduced to obviate these objections, and it was to a very large extent successful, but the immunity conferred, though complete while it lasts, is very short-lived. It may last only twenty days or, as some say, two or three months, but after the lapse of that time the animal is very liable to be attacked if in an infected area. Other expedients are almost daily being suggested and tried. One of the latest methods is that advocated by Dr. Danysz and Dr. Bordet. They consider that true permanent immunity can only result from an attack of the disease; they inject into the animal some "salted" serum and then allow the beast to mingle with infected cattle. Immediately after the injection the immunity is complete, but in a few days the efficacy of the serum injection has diminished sufficiently to allow the animal to take the disease, but the attack will be very mild because of the remaining protective influence of the serum. The method is ingenious and deserves thorough trial, and we may hope that one outcome of this severe epidemic will be that a satisfactory method will be devised of preventing such direful results in the future. In the present number of THE LANCET we publish an article from a correspondent in South Africa which gives a very clear account of the disease and the means employed to combat it. One other point of interest we may mention, namely, that the flesh of oxen dead from rinderpest is said to be perfectly harmless to human beings when taken as food, even if not thoroughly cooked.

THE SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT the meeting of the Fellows and Members of the Royal College of Surgeons of England which will be held at the College on Thursday afternoon, Nov. 18th, a resolution will be proposed on behalf of the Society of Members to the effect that the meeting repudiates the claim put forward by the Council in their resolution of March, 1896, to represent "the Members as well as the Fellows," and again calls upon the Council to accord the franchise to the Members. A second resolution will ask the meeting, "in view of the widespread public and professional evils induced by medical aid associations and other companies trading in medical attendance," to call upon the Council "to make a clear pronouncement for the information of Fellows and Members that the acting as paid servant of any persons who tout and canvass for patients or who allow the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor is 'disgraceful in a professional sense' and deserving of censure."

MR. PICTON ON THE VACCINATION QUESTION.

WE have never understood Mr. Picton when writing on the vaccination question, and he has now become more unintelligible than ever. Thus he wrote to the *Times* on Nov. 4th to make two assertions. One is a definite declaration to the effect that he entered on the inquiry made by the Royal Commission on Vaccination "with a belief in Jenner's alleged discovery." All we have to say on this point is that his questions at one of the first sittings of the Commission were directed to show that because in years where there i an increase in the number of vaccinations there is an increase in the number of cases of small-pox (a statement which requires qualification), therefore vaccination may be assumed to cause small-pox. It does not seem to have occurred to him that he was putting the cart before the horse, and that, as at Gloucester, the anti-vaccinationists get afraid of their neglect when small-pox becomes epidemic and rush to the vaccination stations, and so increase the number of vaccinations. Other people have been puzzled besides ourselves by Mr. Picton's assertion that he had been a true believer. M.D. reminds us in the *Times* of the 9th inst. that Mr. Picton wrote in 1889, the very year when the Royal Commission was appointed, to say that he "was rapidly approaching" the conclusion "that vaccination is of no use." So much for his declaration of his faith when he became a member of the Royal Commission in 1889. His second assertion is more astounding; it is that "seven years' study" on that Commission "at once" convinced him that "vaccination is absolutely futile." And yet at the end of those seven years Mr. Picton, not content to sign the general report, made announcements, together with Dr. Collins, in a separate report, in exactly the opposite

sense. Thus he put his signature to sentences such as these: "While shortly after vaccination there may be a certain amount of immunity or antagonism to the influence of renewed vaccination, *or inoculation with small-pox*,[1] ..... this soon wears off, perhaps more rapidly in some than in others." Then, again, Mr. Picton, once more associating himself with Dr. Collins's views, writes in the report of the Royal Commission: "Even if vaccination were a more effective and trustworthy prophylactic than we hold it to be ....." Here after seven years of study is a complete admission that Mr. Picton did believe vaccination to be of some value, and that he did not believe it to be "absolutely futile." It has been suggested before this that Mr. Picton has never yet mastered the elements of this subject of vaccination in relation to small-pox, and this is the most charitable view to take of his recent assertions.

A DEATH FROM CIGARETTE SMOKING.

WE extract the following paragraph from the lay press:—

"At Felling, near Gateshead, yesterday, at an inquest on the body of James Francis Duffy, aged sixteen years, the jury found that the lad died from syncope, due to nicotine poisoning, caused by the excessive smoking of cigarettes. Mr. Graham, the coroner, said there seemed to be quite an epidemic of such cases. It was time the attention of parents was called to the danger of their children smoking at so early an age."

We quite agree with the coroner, and would add, having regard to some remarks on the quality of cheap cigarettes which we were moved to make last week, that it would be very interesting to have an analysis made of the tobacco which formed the favourite smoking of this unfortunate boy.

A WELL-KNOWN POLICE SURGEON.

WE regret to have to record the death of Mr. George Bagster Phillips, M.R.C.S. Eng., L.S.A., who has been surgeon to the Whitechapel or H Division of Police for over thirty years, and who died on Monday, Oct. 27th, from apoplexy. A personal friend of Mr. Phillips, who was for some time his assistant, sends us the following brief communication concerning him: "The old proverb that a straw can tell the way the wind is blowing holds good if we look for Mr. Phillips's name in the Medical Directory. We there find exactly two lines about him, setting down simply his address, and his qualifications with their dates. This was typical of the man, for anything of the nature of self-advertisement was utterly abhorrent to his nature. Though he was one of the leading police surgeons in London, and was greatly trusted and respected by all the police authorities, he did not even mention his connexion with Scotland-yard, while he makes no allusion to the clubs of which he was medical officer and the members of which trusted him implicitly and regarded him with veneration. I was one of his assistants and learned a lesson that all my predecessors and successors could have learned, and doubtless did learn, from him in his quiet house in Spital-square—the lesson of doing all that had to be done to the very best of our ability without expecting any recognition of our efforts, the work to be done for the love of our profession and for its own sake. ..... Under a brusque, quick manner, engendered by his busy life, there was a warm, kind heart, and a large number of men and women of all classes are feeling that by his death they have lost a very real friend." Mr. Phillips's name became prominent in connexion with the series of crimes which took place in the Whitechapel district some years ago, and which are now popularly known as the "Ripper Murders," having conducted the necropsies on the mutilated bodies of the victims in conjunction with Mr. Bond. In this connexion it is well to remember that the crimes committed by people afflicted with what is technically known as "sadism" are at the present time affording particular danger to the community, several recent tragedies having probably had their origin in sadistic impulses. The individual thus afflicted may be in other respects perfectly sane, and when the desire for lust and cruelty comes upon him he commits his terrible crimes with so much secrecy and ingenuity that he frequently escapes detection altogether. The victims of sadism perform acts which vary in their monstrosity, but they generally proceed upon the same lines, and on inquiry into their antecedents they will nearly all be found to spring from a neurotic stock; in various members of the family will be found some pronounced insanity, hysteria, or other neuropathic condition, while the patients themselves frequently present some obvious cranial defect in formation, and many of them from youth upwards have exhibited a taste for cruelty to animals. This propensity in children should be carefully watched, and if the tendency persists in spite of every endeavour to turn the mind into healthy and humane channels some strong and early control should be placed over them or they may become a great danger to those about them—and not only, as is generally supposed, to those of the opposite sex. In a recent case in Islington the victims, for example, were of the same sex as the perpetrator.

[1] The italics are ours.

SEPTIC IMPETIGO.

A CASE recently communicated to the Société de Biologie in Paris by Dr. Triboulet[1] is interesting as affording an example of rapidly fatal impetigo due to the bacillus pyocyaneus. The patient, an infant aged ten months, was also the subject of acute miliary tuberculosis. Which of these diseases was chiefly accountable for the fatal result is, of course, uncertain. Dr. Triboulet considers that it was the former, and he alleges in support of this opinion the fact that sudden death is not exceptional in generalised impetigo, while tuberculosis as a rule does not kill with the same rapidity. In his case the bacillus was discovered in the fluid exuding from small ecthymatous ulcerations in the skin, and also in the blood of the heart, and in the liver and kidneys. Its identity was confirmed by cultures in beef-tea, &c., and by experiment on living animals. It was found, moreover, to exist as a saprophyte in the neighbourhood of the Trousseau Hospital, where this case occurred, having been discovered by one of the resident physicians on the bark of an adjacent tree. The facts of this case are obviously suggestive in relation to the occasionally surprising virulence of some skin eruptions.

[1] Journal de Clinique et de Thérapeutique Infantile, Oct. 28th, 1897.

THE CHAIRMAN OF THE LIVERPOOL HEALTH COMMITTEE ON THE HEALTH OF LIVERPOOL.

AT the final meeting of the Liverpool Health Committee for the municipal year the chairman (Alderman Cookson) gave an interesting review of the work of the Health Department during the past year. He instanced how greatly the work of the Health Department had increased of late years, as shown by the number of houses erected in 1897, which amounted to 1814, as compared with 474 houses erected in 1894. The general sanitary condition of the city during the first six months of the year was very satisfactory, the rate of mortality having been during that period 22 per 1000, indicating that the improved condition of the previous year had been fully maintained, each district in the city sharing in the general improvement. The sanitary horizon was, however, darkened during the third quarter of the year by the large amount of diarrhœa occurring amongst the children of the poorer classes, more especially in the case

of very young infants, a large number of which cases were due to the carelessness of parents in the neglect of the sanitary precautions persistently impressed upon them by the officials of the Health Department in the matter of feeding and attention to general cleanliness. With the single exception of this disease all the zymotic diseases had shown a satisfactory diminution. Typhus fever still lingered in squalid areas of the city, the deaths due to which amounted to 17, against 26 during the previous year. Not a single death was due to small-pox. A remarkable diminution in the number of deaths from typhoid fever occurred during the first nine months of the present year, which reached 76, as compared with 167 during a similar period in the previous year. With regard to this disease it had again been proved that food had been the medium of infection, close upon 30 patients having been infected by eating ice-cream which it was found had been manufactured under conditions which admitted of no doubt as to the source of contamination. The proposed clause in the Liverpool Improvement Act for licensing itinerant vendors and registering premises where food disposed of by them was manufactured or stored would be of unquestionable benefit. Great benefit had accrued by the amount of street-washing which was constantly taking place, and stress was laid on the injury to public health caused by rubbish and litter being thrown into the public thoroughfares, which under the Liverpool Improvement Act was a punishable offence. The birth-rate of the city had continued to be high, and in the older parts of the city reached 37·7 per 1000, while in the added and more aristocratic areas a lower rate prevailed—viz., 24·9 per 1000.

BOARD SCHOOLS AND MEASLES.

MEASLES is a disease which is apt to be thought lightly of, but it is making its importance felt very unpleasantly in two ways—first by its fatality and secondly by its interference with attendance at board schools. The latter inconvenience has been brought almost accidentally to the notice of the medical officer of health of Islington. Not being a notifiable disease he does not receive information of it as he would of other diseases from medical men. But he is disappointed at not getting information of it from school authorities. He has narrated to his public health committee the way in which he came to find out quite casually that up to Friday, Oct. 22nd, no less than 99 children had been excluded from school either because they were attacked or lived in homes where there were cases. The regulations of the School Board require the medical officer of health of the district to be informed of the child's exclusion on account of symptoms of infectious disease. But they seem rather vague as to the particular officer who is to convey this information. Apparently the duty devolves upon the head teacher. This doubt ought not to exist a single day longer, and we feel sure that the medical officer of the School Board will be glad to see that more precise instructions are given. Undoubtedly, as the medical officer of health of Islington says, the sanitary authorities do much for the health of board schools, and it is but fit that the authorities of the board schools should facilitate the efforts of the medical officers of health in minimising the evil of the spread of infection which seems so much to attach to the board school system. Apart from the mere local incidence of measles, its gravity as a cause of infantile death is becoming more and more serious. In London in the week before last the deaths from measles, which had been 19, 41, and 48 in the preceding three weeks, further rose to 58, or 20 above the average, and far exceeded the deaths (39) from both scarlet fever and whooping-cough. This is a state of matters that calls for the serious consideration of the Local Government Board. In well-ordered private practice measles in this country is scarcely ever a fatal disease. Its fatality among the poorer classes is a matter of grave significance. The first step to any efficient remedy of the evil must be in early information being supplied to the health officers. The Board has its rules and it is for the Board to insist upon these rules being obeyed.

MAYORAL HONOURS FOR MEDICAL MEN.

UP to the time of going to press we have received the following names of medical practitioners who have been elected to the office of Mayor: *Bootle:* John McMurray, M.D., M.S., M.A.O., R.U.I. *Carnarvon:* Robert Parry, M.B., L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. *Coventry:* T. Webb Fowler, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A. *Hastings:* Frederic Bagshawe, M.D. Camb., F.R.C.P. Lond. *Hedon (Hull):* James Soutter, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A. *Henley-on-Thames:* James Lidderdale, M.R.C.S. Eng., L.S.A. *Marlborough:* James Blake Maurice, M.D. St. And., F.R.C.S. Eng. *Ruthin:* Job Medwyn Hughes, M.B., C.M. Edin. *Saltash:* Robert Thornton Meadows, M.D., M.S. Edin.

MOTOR CARS AND HEALTH.

AS we have before pointed out, if motor cars should supplant vehicular traffic in our crowded towns the innovation would have an important bearing upon sanitation. Other and important possibilities of good from a health point of view suggest themselves if the experiment reported by the *Engineer* should prove successful. Says that journal:—

"A member of the Automobile Club de France has just had a steam house constructed to his order ..... in Paris. ..... The vehicle is in the form of a railway car, drawn by a Dion steam tractor of 30 horse power. It has a length of 7·70 metres and is 2·60 metres in width and height. ..... Entrance may be gained either by the folding doors at the side or by a door at the rear. Down the side of the car runs a corridor, with doors opening into the different rooms. The first room is used during the day as a salon, and at night as a sleeping-room, the transformation being effected by a couple of divans which may be turned down to form a bed 1·80 metre long and 70 centimetres wide. ..... Another room of the same size adjoining is to be used as a dining-room, and when not employed for this purpose the wooden partitions at the back and side may be folded up, thus making a large salon. There is also a lavatory and bath-room which will be fitted up with all the necessary accessories, and behind this is the kitchen, containing a cooking range, a cupboard for the utensils, and under the floor is a safe for the provisions. On the top of the car seats are provided for three or four persons, while here also are carried the supplies of water and coke. Enough combustible can be stored away, it is said, to last for a run of 500 kilometres."

THE SERUM DIAGNOSIS OF TYPHOID FEVER.

THE simple technique for the serum diagnosis of typhoid fever recommended by the Laboratory of the Board of Health for the Province of Quebec, which was started at Montreal and is under the bacteriological management of Dr. Wyatt Johnston, has been found after a year's trial to be quite satisfactory from a practical point of view. Dr. Wyatt Johnston has recently reported to the President of the Board of Health that he does not find quantitative work necessary for routine diagnosis, although for recording scientific observations quantitative methods must be selected. For the routine of official work he states that he prefers to employ cultures having a sensitiveness so low as to give no reaction at all with non-typhoid blood. Dr. Johnston wishes further to call attention to the importance of paying special care to the reaction of the test culture media. "Bouillon cultures," he writes, "showing after twenty-four hours' growth of typhoid at 37° C. a slight uniform cloudiness only and quite free from scum or sediment offer the greatest security against pseudo reactions. I find that

such cultures can be obtained by using bouillon just on the verge of litmus acidity, giving no blue whatever to the red paper. From 5 per cent. to 6 per cent. of normal alkali are required to make this bouillon neutral to phenol phthalein. Cultures which give a heavy bouillon growth are the ones which are most liable to give pseudo-reactions—i.e., to clump in a deceptive manner spontaneously or with non-typhoid blood. If the culture is too acid the reaction may be defective. With a proper culture I have never met with the typical reaction apart from typhoid fever."

A TESTIMONIAL TO DR JOHN T. ARLIDGE.

SOME friends of Dr. Arlidge have proposed to form a committee for the purpose of presenting him with a testimonial of the high estimation in which he has been held for so many years by the profession and his friends generally as a practical philanthropist and sanitarian and as a literary man. The following have consented to have their names placed on the committee:—The Duke of Sutherland, Sir Samuel Wilks, Bart., F.R.S., Sir C. H. Gage-Brown, K.C.M.G., Sir Peter Eade, Dr. J. W. Ogle, Dr. Matthew Baines, M.D., Mr. W. H. Folker, Mr. T. W. Nunn, Dr. Lionel Beale, F.R.S., Dr. J. W. Moore, and Dr. Charles F. Moore, hon. secretary, 10, Upper Merrion-street, Dublin, by whom subscriptions will be received. Dr. Arlidge has ever taken a warm and active interest in factory operatives and has through a long life endeavoured to better the condition of the working classes. His services to medicine as editor of the *British and Foreign Medico-Chirurgical Review* also merit the recognition of the profession. We regret to learn that Dr. Arlidge is in failing health.

SOME OF THE RECENT SERVICES OF MEDICAL OFFICERS DURING THE BORDER CAMPAIGN.

WE need no apology for calling attention to the military despatches connected with the late operations at Malakand and the Swat Valley, for it is a source of real gratification and pride to notice the way in which the labours of the medical services generally and the devotion and gallantry manifested by several officers of those services have been specially recognised. In General Meiklejohn's despatch we read that Surgeon-Lieutenant J. Hugo, attached to the 31st Punjab Infantry, saved Lieutenant H. B. Ford from bleeding to death under exceptionally trying circumstances. Lieutenant Ford was wounded in a night attack and the wound involved an artery and gave rise to serious hæmorrhage. There were no means at the time of securing the vessel and Lieutenant Surgeon Hugo had to compress the artery with his fingers for two hours, and subsequently on the following morning, while still compressing the vessel with one hand, managed to pick up the wounded officer with the other and carry him to a place of safety. Surgeon-Captain H. F. Whitchurch, V.C., is spoken of by General Sir Bindon Blood as having attended to the wounded under fire throughout the fighting during the relief and defence of Chakdara. General Meiklejohn, in his despatch dealing with the attacks from July 26th to Aug. 1st, in mentioning the medical staff says:—

Brigade-Surgeon-Lieutenant-Colonel F. A. Smyth was most zealous and performed his duties to my satisfaction. He volunteered to perform the duties of Provost-Marshal, and did so for a short time during the illness of Lieutenant H. E. Cotterill. The arrangements made by Surgeon-Major S. Hassan, senior medical officer, 38th Native Field Hospital, and the indefatigable attention and care with which he devoted himself to the wounded deserve great praise. The list of casualties is large, and Surgeon-Major Hassan has been untiring in his exertions for their relief. I hope his Excellency will think fit to consider his services favourably. Surgeon-Captain T. A. O. Langston, 38th Native Field Hospital, rendered valuable assistance in attending to the wounded under a heavy fire on the night of the 26th and each following night, and behaved with courage and devotion in carrying out his duties under very exceptional circumstances. Surgeon-Lieutenant W. Corr has worked night and day in the hospitals in trying to alleviate the sufferings of the wounded, and has most ably and efficiently aided Surgeon-Major Hassan.

We have already alluded to the gallantry exhibited by Surgeon-Captain Fisher in escorting two dhoolies to the assistance of Captain Ryder's company under a hot fire from the enemy when it was attacked near Badalai.

DISCUSSION ON THE PREVENTION OF ENTERIC FEVER AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

IN view of the recent disastrous epidemics of typhoid fever in Worthing, Maidstone, and other towns, much interest is likely to be taken in the discussion on the Prevention of Enteric Fever which has been arranged to take place at the next meeting of the Royal Medical and Chirurgical Society on Nov. 23rd. The council have made an excellent selection in asking Dr. Poore to open the discussion; and it is hoped that Dr. Seaton, Dr. Sims Woodhead, Dr. Macfadyen, Dr. Kanthack, and others will take part.

VACCINATION IN CYPRUS.

THE annotation which appeared in THE LANCET of Oct. 9th on "Small-pox in Cyprus," and which states that we had no information as to the condition of the population as regards vaccination, has been regarded by some as implying that vaccination is neglected in that island. We learn, however, from an authoritative source that this is by no means the case. A system of public vaccination was instituted in the island under the organisation of the late Dr. Barry, and it is believed that, taking the population as a whole, there are few people who are better protected against small-pox. Indeed, during the last fifteen years the average number of vaccinations performed annually has exceeded 5000 and most of these have been primary ones. The High Commissioner of the island, Sir Walter Sendall, K.C.M.G., was formerly associated with the Local Government Board in London, and we feel certain he may be trusted to see that in times of special risk every facility will be afforded to secure the re-vaccination of all persons needing such further protection.

LOCAL ANÆSTHESIA BY SCHLEICH'S METHOD.

THE endermic followed by hypodermic injections of weak solutions of sodium chloride were found by Schleich in 1891 to produce a certain amount of anæsthesia in the tissues treated.[1] He subsequently added to his solutions extremely minute quantities of various substances—e.g., cocaine, antipyrin, &c.—and found that he was thus enabled to produce a local anæsthesia sufficient for the performance of minor and even some major operations, without the infliction of more pain than resulted from the initial puncture of the needle of the injecting syringe. This he obviated by freezing the cuticle by means of an ether spray or chloride of ethyl. Since then Schleich has elaborated a careful system whereby his method of anæsthetic infiltration has been safeguarded from its first transparent dangers. He rightly insists that only a rigid following of the details of his instructions can ensure success. Dr. Simonson and Dr. S. Cohn, of Schöneberg, have recently published a paper in the *Berliner Klinische Wochenschrift* in which they say that they have employed Schleich's method in 102 operations with great success. They use ethyl chloride for the purpose of freezing the skin before the needle is

[1] See THE LANCET, Dec. 12th, 1891, p. 1338.

inserted. The painlessness thus induced gives courage to the patient, and even children will then allow cutting operations to be undertaken without difficulty. Dr. Brieglieb, also, writing in the *Zeitschrift für Praktische Aerzte*, is quite enthusiastic over the advantages of Schleich's plan, especially for country practitioners far from their professional brethren. He himself has performed many operations in this way, amongst others one in which he removed half the tongue for cancer. As soon as the operation was over the patient began to speak with the remaining portion of the organ, and got down from the operating table and into bed without assistance. In addition to the use of these injections or "infiltrations" for surgical purposes they are often most valuable in cases where pain from neuralgia, &c., has to be relieved. Cases are mentioned by Dr. Simonson and Dr. Cohn of both acute and chronic character in which the relief afforded has been most remarkable. Success seems only obtained when the details of Schleich's plan are followed out with the utmost exactness.

INSTRUCTION IN TROPICAL DISEASES.

SINCE the delivery of Dr. Manson's address upon the necessity for improved teaching in tropical diseases sundry letters bearing on the matter have appeared in our columns and also in the lay press. The subject is no doubt of the greatest importance to a country like our own whose troops both naval and military, to say nothing of innumerable civilians, are employed all over the world, and we must allow that it would be an admirable thing if the other metropolitan hospitals and the great extra-metropolitan schools of medicine were to follow the example of St. George's Hospital and St. Mary's Hospital and institute a course of lectures upon tropical diseases. As regards the army we are not so badly off as, judging by the correspondence which has already appeared upon the matter, many people seem to think. For thirty-seven years tropical medicine has been taught at the Army Medical School, first at Chatham and afterwards at Netley, clinical material being afforded by invalided soldiers from India, China, and other tropical and sub-tropical stations in all parts of the world. All surgeons on probation for both the Army and Indian Medical Departments have to go through this course of Tropical Medicine, which lasts for four months, two or three lectures being given per week. The plasmodia of malaria are demonstrated to the surgeons, who are also taught how to search for, stain, and identify them. The amœbæ of dysentery are also studied as well as the bacteriology of plague and other tropical diseases. The first professor of military medicine was Dr. Morehead, I.M.S. and he was followed by Maclean, Boyes, Smith, Capley, and McLeod the present occupant of the chair. It is evident from this that the military and medical authorities at the War Office have not been so unmindful of their obligations with regard to this important subject as recent remarks upon the matter would suggest. With regard to the Medical Department of the Navy we see no reason why surgeons on probation for that branch of Her Majesty's forces should not be allowed, or perhaps we ought to say compelled, to attend the classes at Netley before, during, or after their time at Haslar, for although a knowledge of tropical medicine may be of slightly less importance to naval medical men than to those serving with troops on land they still see enough of the diseases in question to render instruction in them very desirable.

AT the opening meeting of the Epidemiological Society of London, which will be held on Friday, Nov. 19th, at 11, Chandos-street, Cavendish-square, the President of the society, Professor J. Lane Notter, will deliver an address on the International Sanitary Conferences of the Victorian Era.

A SESSIONAL meeting of the Sanitary Institute will be held at the Parkes Museum, Margaret-street, on Wednesday, Nov. 17th, at 8 P.M., Sir Douglas Galton, F.R.S., in the chair, when a discussion will take place on the Pollution of Water-supplies by Encampments of Hop-pickers, Casual Workers, and Tramps. The discussion will be opened by Professor W. H. Corfield, who will speak in reference to the dangers of pollution of municipal water-supplies, and Miss M. A. Chreiman, who will discuss the sanitary control of hop-pickers.

SIR WILLIAM BROADBENT, Bart., M.D. Lond., F.R.S., will preside at Sir Squire Bancroft's reading of Dickens's "Christmas Carol" at Portman Rooms on Nov. 22nd in aid of St. Mary's Hospital. This is the first of the series which Sir Squire Bancroft will give in London during the coming winter. Sir Squire Bancroft will also give a reading of the "Christmas Carol" in Bath on Jan. 4th in aid of the new chapel for the Royal United Hospital.

MR. WALTER SPENCER ANDERSON GRIFFITH, M.D. Cantab., F.R.C.P. Lond., F.R.C.S. Eng., Assistant Physician Accoucheur to St. Bartholomew's Hospital, has been elected President of the Medical Defence Union in place of Mr. Victor Horsley, F.R.S., F.R.C.S., Eng., who has resigned owing to his election upon the General Medical Council as one of the Direct Representatives.

THE Harveian Society of London will hold its annual dinner at the Café Monico, Regent-street, on Thursday, Nov. 25th, at 6 30 for 7 P.M. Members desiring to dine should communicate with the senior secretary, Dr. Cock, 1, Porchester Houses, W.

THE HOSPITAL REFORM QUESTION IN NEW YORK.

DR. FREDERICK HOLME WIGGIN recently read a paper before the New York State Medical Association entitled "The Abuse of Medical Charity," which proves that the abuses complained of in Great Britain have their counterpart on the other side of the Atlantic. He said that it was easy to demonstrate conclusively that as at present administered medical charity is demoralising to both the recipients and to the donor. Some idea of the alarming growth and extent of this evil might be obtained from the carefully prepared report of Dr. Stephen Smith to the State Board of Charity. Here it was shown that during the year 1895 837,971 persons applied for and received free medical treatment at 105 dispensaries in New York, that 1,418,847 free visits were made by these applicants to these dispensaries, and that 78,000 persons received free board, lodging, nursing, drugs, surgical dressings, and treatment. In other words, that something more than 49 per cent. of all the inhabitants of New York had claimed in one year to be unable to care for themselves. This should be contrasted with another statement by Dr. Smith to the effect that during the period from 1791, when the first dispensary was established in New York, to about 1870, the applicants for charity bore a ratio to the total population of 1·5 per cent. Dr. Wiggin then went on to quote from an editorial article in the *New York Herald* to show that Greater New York spent fifty millions of dollars every year on charities, and that, according to a conservative estimate, fully 50 per cent. of the donors' money was diverted from the purpose for which it was intended and was practically filched from the poor to whom it rightfully belonged. Again, according to one writer, Dr. J. B. Huber, there might be found in large numbers at dispensaries such people as actors, opera singers, gamblers, bar-tenders, policemen, farmers, prosperous business men and those owning houses, lawyers, and perhaps even a street railway president. According to another writre,

Dr. George F. Shrady, fully 50 per cent. of the applicants in the reception room of a well-known institution (which he dubs "the diamond dispensary") were well dressed, 10 per cent. were finely dressed, more than half the men bore no evidences of poverty, and among the women there was an attractive display of fine millinery, yet all obtained the free treatment supposed to be given only to poor persons. A reporter of one of the daily papers, in describing what he saw at a well known "clinic," stated that not more than one person in fifty was at all shabbily dressed, a large majority were fairly well dressed, one third of them were quite presentably dressed, and perhaps one-fifth were positively well dressed. Dr. Wiggin referred to the case of a man who paid an enormous rent in a fashionable apartment house near Central Park, and who spent many thousand dollars a year on living expenses, yet he went to what Dr. Shrady had so aptly termed "the diamond dispensary" on the plea that his expenses were so heavy that he could not afford to pay a fee to a medical man. "Surely," Dr. Shrady continues, these instances "show the spirit in which charity is asked for and accepted; it is largely a desire to save money without apparently thinking that self-respect is lost in the effort or that a wrong is done to the really poor and to the physician, who is certainly as much entitled to his hire as the clergyman or other members of the community, as he, too, has social obligations to fulfil." More than this, as Dr. Schweck had well said in the *Philadelphia Press:* "People of means who go to charity dispensaries and receive treatment free of charge, representing themselves to be too poor to pay for medical services, commit a criminal act, for they obtain what they are not entitled to, and do it under false pretences." Another and important aspect of this subject has been revealed in a communication from Dr. G. M. Roe, medical superintendent of the Boston City Hospital, to the *Boston Herald.* He says: "It is a generally accepted fact among people who have had large experience in doing charitable work that the first thing that a man or woman will accept as charity is medical attendance. They will accept free service of the doctor when you could not prevail upon them to accept rent or fuel or anything of the kind as a gift. The acceptance of gratuitous medical attendance is the first step towards pauperism. There is already a tendency towards what is generally known as 'nationalism,' a belief among the common people that the city and the State owe them a living, and that medical attendance, among other things, should be furnished them by common taxation regardless of their financial standing as individuals." Again, as Dr. J. J. Stevenson had expressed it in the *Mail and Express:* "If recovery from disease be secured at the expense of self-denial, the memory of the cost will lead in ordinary cases to care that a recurrence of disease and attendant expenses may be prevented. But if the careless feel that treatment, medicine, and even diet can be had simply for the asking, there can be no reason for resisting the natural tendency to neglect the laws of health. ..... It is not surprising that the reckless poor see in such careless giving an acknowledgment of the unequal distribution of wealth and believe that it is founded on injustice; nor is it strange that the anarchist's cry is not for opportunity to earn by labour, but for such distribution of wealth as may enable all to enjoy the luxury of idleness." The following are the conclusions arrived at by Dr. Wiggin after a critical review of the subject: (1) that medical charity as at present administered is an unqualified evil and is seriously menacing existing social conditions; (2) that the application for free treatment of those able to pay the physician a moderate fee for his services robs the really poor; (3) that all medical charitable institutions should be under the direction and control of State and local boards of charities, who should have the power to enforce their rules; (4) that all applicants for medical charity should be investigated by local charity boards, and the unworthy excluded; (5) that no medical charitable institution should be allowed to charge nominal sums for medical or surgical service, nor should they be allowed to charge for medicines or appliances; (6) that all physicians connected with charitable institutions should be paid for the service which they render; (7) that it should be made a misdemeanour, punishable by fine, for any person to receive free medical treatment by reason of false representations as to financial condition; and (8) that State or city aid should not be granted to private medical charities.

The Lancet Special Commission

ON THE

METROPOLITAN WATER-SUPPLY.

XIX.[1]

NEW RIVER COMPANY—*Continued.*

PRESENT CONDITION OF THE NEW RIVER.—A SURVEY (*continued*).

880 yards.—Hoe-lane. Here is a well and pumping station on the upper bank. Close to the Station is Hoe-lane Bridge.

440 yards.—Carter Hatch-lane bridge.

500 yards.—From this point for a distance of about a quarter of a mile the bottom and sides of the river are concreted, and the sides slope as 1 in 5. The river is about 5 ft. in depth at this point.

400 yards.—There is here a public foot-path on the lower bank for a distance of about 250 yards. The path goes from Enfield highway to Enfield town. Here, on the upper side of the river, pipes are being put to convey the surface drainage from the land. This work is being very efficiently carried out, and there are a large number of manholes to facilitate the cleansing of the drains. The course of the surface drain is shown in the map by a dotted line, the water is conducted in an 18-in. pipe under the New River at the point marked A 1 (Map 3).

200 yards.—Highway Fields foot-bridge. A new one is now being erected. At the part of the river which has been concreted an arrangement has been made to enable anyone who by chance should fall into the river to get out. At a distance of every 100 yards on each side there are three ladder irons, one above the other, placed in a recess. At points where public footpaths come next the river galvanised iron chains are to be suspended along the concrete walls, and this will be done in all those parts of the river which have concrete walls and which have also public footpaths adjacent. It is worthy of note that the New River is a private property, and that no one has any right to get into it. The Company is not under any obligation whatever to put up the iron chains or the ladders.

700 yards.—Enfield grate bridge.

50 yards.—From this point two 48 in. pipes take the water beyond Bush Hill sluice the course of the pipes being across gardens, under the Great Eastern Railway line, and then through fields. The river passes round the Enfield loop for a distance of about two and a half miles. Roughly speaking, half the water is conducted through the 48-in. pipes and the other half passes along the course of the river. The course of the pipes is shown in the map by a dotted line A 2 to A 3 (Map 3).

30 yards.—Station-road Farm bridge, Enfield. On the upper bank of the river here are market gardens. The river passes next Nag's Head-lane, which is a public road.

250 yards.—Enfield Station bridge.

200 yards.—Cherry Orchard-lane bridge. This part is fenced in on both sides except the last 40 yards, along which there is a path leading to the back entrances of some houses on the river bank. There is an occupation foot-bridge in the garden of a house in Baker-street.

200 yards.—Baker-street bridge. The river here has Enfield Court grounds on the upper bank.

450 yards.—Foot-bridge in Enfield Court grounds.

200 yards.—Occupation foot-bridge. Here a surface-water culvert passes under the river, going in the direction from the upper to the lower bank—that is, from the north to the south.

Pennefather's field.—Here there is a public foot-path.

300 yards.—Pennefather's foot-bridge; the public foot-path here comes from the upper to the lower side of the river.

60 yards.—Horseshoe bridge path. The public foot-path is here on the upper bank.

25 yards.—Occupation foot-bridge.

[1] Nos. I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., and XVIII. were published in THE LANCET of Feb. 20th and 27th, March 6th, 13th, 20th, and 27th, April 3rd, 17th, and 24th, May 1st, 8th, 15th, 22nd, and 29th, June 19th and 26th, Oct. 23rd, and Nov. 6th respectively.

20 yards.—Occupation foot-bridge.

40 yards.—Public foot-path from Chase Side to Enfield.

150 yards.—Chase Side foot-bridge.

130 yards.—Chase Side-road bridge. There is here a public foot-path on the lower bank as far as the foot-bridge at Carr's Basin. On the upper bank is Chase Park.

400 yards.—Carr's Basin and Carr's Island. Carr's Basin foot-bridge. Here the foot-path ends.

440 yards.—Seven Sisters grate bridge. Just at this point (7, Map 3) for a few yards the banks of the river are concreted in order to prevent any possible contamination from the weeds which are here taken out and left in heaps to decay.

200 yards.—Occupation foot-bridge.

120 yards.—London-road bridge. This is the high road from London to Enfield.

Waste Gate.—There is here a cogged sluice-gate 2 ft. 6 in. in width.

50 yards.—Occupation bridge. Manor House, Bush Hill.

300 yards.—Bush Hill Basin.

400 yards.—Bush Hill sluice house. Just below this house the water from the pipes returns to the river. It does not go through the sluice house, but enters the river just below the sluice. The sluice house is built across the river. Here there is an iron gate fixed in a cogged wheel and arranged with a balance weight. The gate is used to regulate the amount of water which is sent down the New River and instructions as to the amount required are received from the head offices of the Company. In this sluice house there are two gauge plates which record the height of the water above and below the sluice. The fall of the river at this point varies from 10 in. to about 2 ft. Just below the sluice house is Edmonton road bridge, Bush Hill. Under the Edmonton-road there is an easement for the river—that is to say, it passes into two channels.

50 yards.—Foot-bridge, Bush Hill House.

220 yards.—Bush Hill House foot-bridge. It was here that the river was formerly carried over a valley in a wooden aqueduct supported on piles; later an embankment was made. This part of the river is now lined with concrete (Map 3, C C'). The channel is 24 ft. in width, 6 ft. in depth and the concrete extends for about half a mile. In Bush Hill Park the river passes over a brick arch. The arch was rebuilt in 1682 and under it there is a culvert which conveys surface water and an iron pipe for the sewage of Winchmore Hill, which goes to the Tottenham sewage works.

400 yards.—Bush Hill House occupation bridge.

250 yards.—River-bank Cottage bridge.

150 yards.—At this point an easement pipe 36 in. in diameter conveys the water to a point in the river 100 yds. lower down. This cuts off a loop (Map 3, D). Just opposite this point on the upper bank there is the beginning of another easement pipe. A pipe 6 ft. in diameter conducts the water for a distance of 60 yards; then for 300 yards the water is conveyed in a 4-ft. 6-in. pipe; then for a distance of 50 yards again in a 6-ft. pipe. The course of this easement is shown in the map. (Map 3, E E'.)

550 yards.—Occupation bridge, Ford's-grove.

3 yards.—Ford's-grove-road bridge.

50 yards.—Ford's grove Farm bridge.

300 yards.—Highfield-row bridge.

150 yards.—Highfield. Here there is a well and pumping station on the lower bank of the river.

200 yards.—Barrowell-lane bridge. The bed of the river is concreted under the bridge and for a distance of about 10 yards above and below it.

550 yards.—Hedge-lane. From a point in the river about 20 yards above this bridge to a quarter of a mile below it the bed and sides of the river are concreted.

700 yards.—Hazelwood-lane.

100 yards.—Foot bridge to Edmonton and Palmer's-green.

150 yards.—Here a culvert passes under the New River to convey the surface water from the western to the eastern side whence it flows into the Lee.

300 yards.—Starkey's-lane bridge.

200 yards.—King's Arms bridge. Here there is an easement. From King's Arms bridge the river runs on an embankment raised about 30 ft. above the surface of the land.

300 yards.—Arch above Pymme's Brook which takes surface water from Southgate, and discharges it into the Lee.

250 yards.—Cock-lane bridge.

350 yards.—Bowes Park bridge. Church path.

300 yards.—Bowes Manor foot-bridge (disused).

400 yards.—At this point the river enters Wood Green tunnel. Here is the junction of walks 3 and 4. The tunnel is built of bricks set in cement, the upper part is arched, the lower part is slightly inverted. The width is 12 ft., the depth 9 ft. For the greater part of a mile (1100 yards) the river flows in this tunnel.

The course of the Wood Green tunnel is under gardens between Myddelton-road, Bowes Park, and Truro-road, Wood Green, under Truro-road, Wood Green Urban District Council Gardens, then under Nightingale-road and the gardens of houses in Finsbury-road, under Commerce-road and a piece of land which formerly belonged to the New River Company but which has been lately given up to the Wood Green Urban District Council with a view to its being made into a public garden. From this point the canal passes under Trinity-road, a few yards of common land, Bounds Green-road, under another piece of land which it is hoped will be made into a public garden by the Wood Green local authorities, then under the Palace Gate branch of the Great Eastern Railway, across a public garden, under Park-avenue and for a few yards under another public garden, where the tunnel ceases and the water again becomes visible.

40 yards.—Station-road bridge, Wood Green. At this point the Wood Green Urban District Council public sewer crosses under the river in a 2 ft. pipe.

70 yards.—The river here passes under an arch of the Great Northern Railway main line. Close to the railway bridge is Hornsey grate bridge. The meshes of the grate are 4 in. and the bars 1 in in diameter. A little below this point is Hornsey Basin. Hornsey Basin has an area of about an acre. It is 16 ft. deep in the centre. From it the Hornsey reservoir is fed through a 48-in. pipe guarded by a screw cock. Here are the Hornsey filter-beds and pumping station; and near by is the Campsbourne well and pumping station.

At Hornsey there is a floating boom and a sluice house across the river. The sluice-gate is 5 ft. in width and 8 ft. in depth. It is arranged with balance weights and worked by cogged gear. The house contains floating dial gauges, which, however, are not now used. Rack gauges are now in general use. A rack gauge, it may be stated, is an iron rod marked with notches 1 in. apart, and the rod is fastened to an oak pile which is fixed in the river. At this sluice there is a fall of about 3 ft. The amount of fall varies from a minimum of 7 in. to a maximum of a little over 3 ft. Formerly water was pumped from this station to Maiden-lane by a three-throw pump worked by an under-shot water-wheel. The wheel is not now in working order and the fall here is not at present used.

440 yards.—Tottenham lane bridge.

40 yards.—Great Northern foot-bridge.

300 yards.—Hampden-lane bridge. Here the Great Northern Railway is on the upper bank. This piece of the river for about a quarter of a mile is called the New Cut. It was made by the Great Northern Railway Company when their line was widened about twenty years ago.

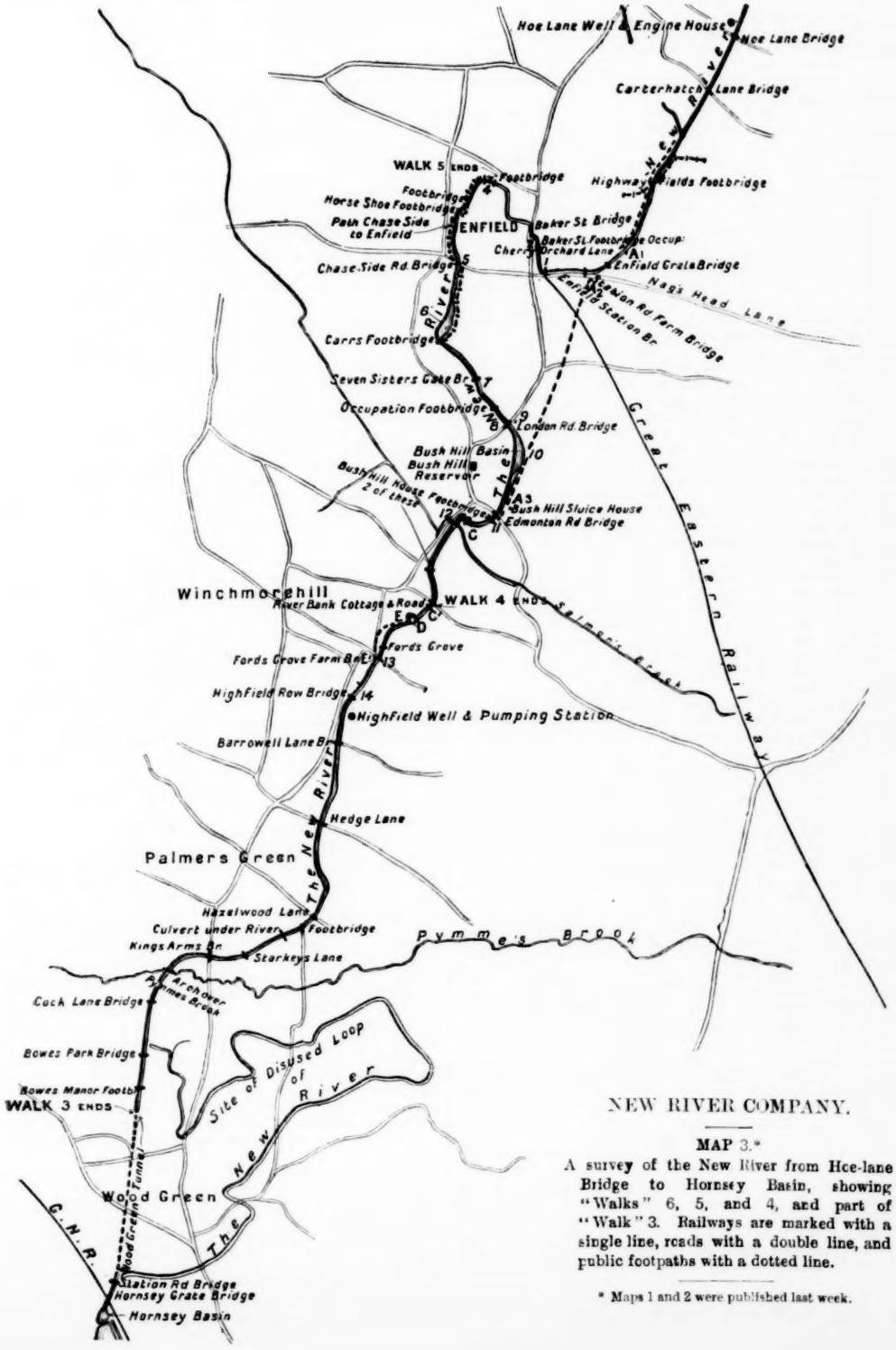
400 yards.—Hornsey Urban District Council sewer passes under the river at a level of 20 ft. below the bottom of the river.

100 yards.—Here there is a shed for storing dam boards. These boards are 9 in. by 4 in. and are dipped in creasote.

15 yards.—Commencement of Harringay tunnel. This is guarded by a grating. Behind the grating there are two slots in the brick work; into these the dam boards can be fixed. The distance between the slots is 18 in., and this space can be filled with puddle. By this means all the water can be dammed back and the work can be very quickly done. This arrangement is used only when it is necessary to clean out the tunnel, an emergency which rarely occurs. The tunnel was made in the year 1891 and it has only been necessary to cleanse it once since that date. For emptying the tunnel of the water which it contains there is a cock pit made to receive it, and from this pit it is discharged into the sewers. The tunnel passes under the road which connects this part of the New River with Wightman-road. It then passes under the Wightman-road and under the gardens belonging to houses in Wightman-road and Hewitt-road. The course of the tunnel is then under Seymour-road, and it ends immediately after passing it.

100 yards.—Warham-road bridge. Here the river passes through a newly-developed residential neighbourhood and is skirted by back-gardens.

80 yards.—Pemberton-road bridge. There are gardens



NEW RIVER COMPANY.

MAP 3.*

A survey of the New River from Hce-lane Bridge to Hornsey Basin, showing "Walks" 6, 5, and 4, and part of "Walk" 3. Railways are marked with a single line, roads with a double line, and public footpaths with a dotted line.

* Maps 1 and 2 were published last week.

down to the river on each side. Just beyond Pemberton-road the gardens are guarded on both sides by an iron fence which has four rails.

80 yards.—Mattison-road bridge. Here there are open iron hurdles between the gardens and the river.

90 yards.—Duckett's-road bridge. There are iron hurdles between the gardens and the river. One part is protected by a wooden fence.

90 yards.—Cavendish-road bridge. On the upper bank there are iron hurdles and a piece of spiked rail.

90 yards.—Burgoyne-road bridge. On one side the river is protected by a piece of oak fence and on the other by iron hurdles.

90 yards.—Umfreville-road bridge. Here the river is fenced by hurdles and wooden railing pointed at the top. There is also remaining a piece of the standard fencing which was formerly used all along the river.

150 yards.—Midland Railway. This is a branch from Tottenham to Hampstead. On the day before this part was visited there was a severe thunderstorm in the afternoon, and it rained very heavily for some time. The surface water from the sides of the railway collected in considerable quantity and covered the line, so that the traffic was for a time stopped. The water also overflowed a garden which is by the side of the railway and washed large quantities of ballast from the line on to it, and the water overflowed and ran into the New River. The man who had this piece of garden said that more than one such flood had occurred there during the last nine years. He stated, also, that at the early part of the flood the water which came down was much discoloured and had an evil smell; that it came from the surface water sewers at Crouch Hill which were liable to overflow after a heavy storm. The arrangement at present in existence for conducting away the surface water at this point is a 9-in. iron pipe which passes under the river, and this pipe is certainly of insufficient size to conduct away the surface water which collects after a heavy storm. The man whose garden was inundated during the storm said that during the period of heavy rain forty 9-in. pipes would not have been sufficient. This may possibly be an exaggeration, but be this as it may the present arrangement for the conveyance of surface water is obviously inadequate.

Midland Railway bridge.—Here is the junction of walks 3 and 2. Here the lower bank is open; the upper is guarded by a standard fence.

150 yards.—Endymion-road bridge. Here, on the lower bank, is Finsbury Park. This is the part which is used for playing cricket. It is divided from the New River path by a high fence.

100 yards.—Finsbury Park bridge. At this point the entrance of the path by the river is guarded from the road only by a low oak fence, so low that children can get on to it and sit on it without any trouble. Between the path and the cricket-ground there is a high wire fence, and on the upper path the standard fence between the path and the river. The day before this was visited after the thunderstorm the New River here overflowed into the cricket-ground. This is said to be a rare accident.

300 yards.—Northumberland bridge, Green Lanes. Here, on the upper bank, is situated Northumberland House Lunatic Asylum, the grounds of which extend for 500 yards along the bank of the river.

100 yards.—Northumberland House foot-bridge. This bit of the river goes along the hillside, the upper bank sloping gradually down to the river, and there are here some very good gardens which go down to it.

800 yards.—Seven Sisters-road bridge.

300 yards.—Woodberry Down bridge. There is here a foot-path which is public, but the bridge is made for carriages and there is a bar at the end which is kept by the New River Company. The public drive to the houses is from Seven Sisters-road.

30 yards.—Stoke Newington grate.

40 yards.—Here is the Stoke Newington Station, which consists of reservoirs, filter-beds, and pumping arrangements. The river now flows along the north side of the reservoirs. It first passes through a disused sluice house called the Ivy House. On the upper bank there are a number of gardens belonging to houses in the Woodberry Down-road. The water in this part of the river is only changed sufficiently often to keep it sweet. Almost all the water passes through the reservoirs. The distance along the first or east reservoir is about a quarter of a mile. From this point the water flows from the western end of the reservoir and is conducted for a distance of about twenty yards in the river, which passes under Lordship-lane bridge. Most of the water goes into the west reservoir, which is situated on the lower bank, and the sluice which admits it is situated at a distance of about 100 yards from the road. The river now flows along to the north of the west reservoir, and at a distance of 600 yards lower down the water which has been in this reservoir comes again into the river. Into this piece of the river, like that next the east reservoir, only enough water is allowed to pass to keep the river sweet. Almost all the water passes through the reservoir.

30 yards.—Newington grate bridge. Here is the pumping station.

50 yards.—The river passes into a 54-in. pipe and goes down the course of the Green Lanes.

700 yards.—Here is a sluice house, to which the workmen of the New River Company have given the name of the Coffee Pot. It is so called because the water comes out of the pipe through a bell-mouthed opening. Here is the junction of walks 1 and 2. At this point the river again continues its course, passing into Clissold Park under a foot-bridge. This part of the river is protected on both sides by an iron spiked railing which has been put up and is kept in repair by the London County Council. There is a public footpath next to the upper bank.

350 yards.—Foot-bridge.

250 yards.—Foot-bridge.

300 yards.—Paradise-road. The river passes under this road and then through a garden.

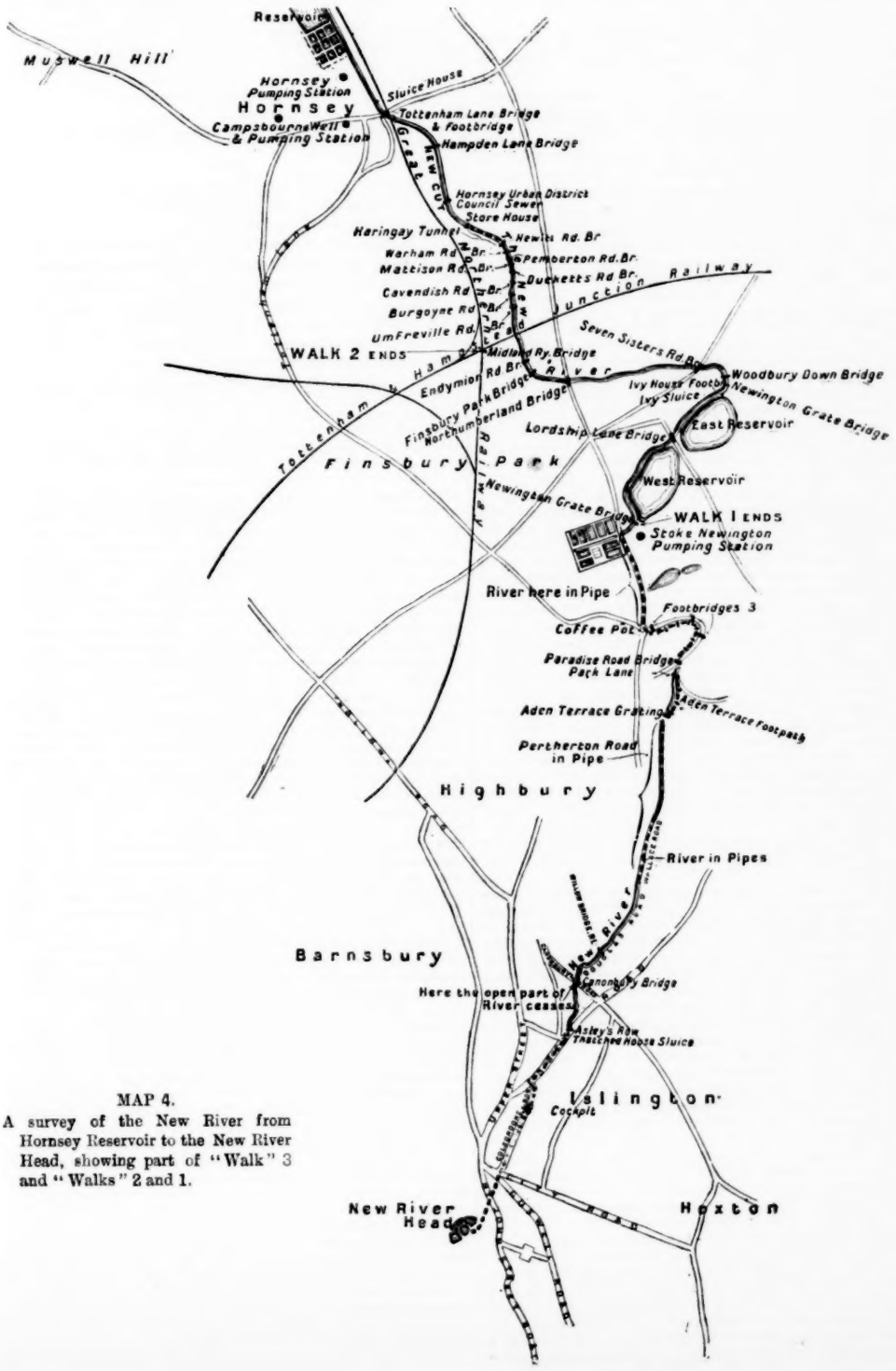
60 yards.—Park-lane bridge. From this point there is a public footpath on the lower bank separated from the river by a high, spiked railing. On the upper side gardens go down to the river. The path passes by Aden Terrace.

350 yards.—Here there is a grating. This grating is of a new type. It is made entirely of iron, the meshes are ½ in. in width, and the pieces of iron which form the grating are also ½ in. in width and about 2 in. from before backwards. The pieces of iron which form the grating are fixed on to an iron rod, and all the meshes are of exactly the same size. Here the open part of the river ceases for a time. The water is conducted in a 48-in. iron pipe, which passes for a distance of about half a mile under Petherton-road, thirty yards along Grosvenor-road, and over the North London Railway at Canonbury Station and then along Wallace-road, at which point the pipe discharges itself again into an open channel. Wallace-road is on the upper bank for a distance of 600 yards, and then the river is crossed by Willow Bridge-road, Canonbury. Here Canonbury-grove is at the lower bank. At this point is a house which was once the ice house of Canonbury House, a place not without historic interest.

300 yards.—Canonbury bridge. The part of the river next Wallace-road is protected from trespassers by a 6 ft. cast-iron fence which extends along Paul's-road, Douglas-road, and Canonbury-road. At Canonbury bridge the river passes into a 54-in. pipe, which is at this point 2 ft. below the surface of the ground. The pipe passes along Astey's-row. Here there is a space covered with grass between an iron fence and the lower side and a wooden fence on the upper side. The width of this space varies from 40 ft. to 100 ft. It is the property of the Company, and is kept more or less private by the policemen on the beat.

At the end of this open space is the "Thatched House sluice." The house is now tiled and there is no sluice. The cottage is occupied by a caretaker and there is a small garden and a cockpit. From this point the pipe passes along the middle of the Essex-road. At a distance of about a quarter of a mile the pipe leaves the Essex-road, and is conducted down Colebrooke-row in a channel 6 ft. in height and 4 ft. in breadth for a distance of 30 yards, and here there is a cockpit, from which water is conveyed in a 36-in. pipe for a distance of 100 yards, then in a pipe 48 in. in diameter for the rest of the distance to the round pond at the New River Company's works at Islington. The course of the main is along Colebrooke-row, then between Colebrooke-row and Duncan Terrace, across the City-road and Goswell-road. After passing this road there is another manhole, which is situated in the playground belonging to Dame Owen's School, close to the iron fence. The pipe then passes under a garden at the corner of St. John-street, Clerkenwell, down Rosebery Avenue to New River Head, Clerkenwell.

(To be continued.)



MAP 4.

A survey of the New River from Hornsey Reservoir to the New River Head, showing part of "Walk" 3 and "Walks" 2 and 1.

THE ROENTGEN SOCIETY.

A HIGHLY successful inaugural meeting of the above recently-formed society was held at St. Martin's Town-hall, London, on Nov. 5th. Professor SILVANUS THOMPSON delivered the presidential address to a crowded audience. After a review of the antecedents and the circumstances under which Roentgen made his famous discovery in November, 1895, he announced that the learned professor had accepted the honorary membership of the new society. With the exception of anæsthetics and Lister's antiseptic system no discovery in the present century had done so much for operative surgery as that of the Roentgen rays. The first great application had been to the diagnosis of dislocations and fractures, the study of bone disease, and the detection of foreign bodies in various parts of the human frame. Dr. McKenzie Davidson had devised an ingenious apparatus by means of which a foreign body could be localised to within one-hundredth of an inch, the complicated geometry of oblique projection being simplified to the use of a callipers and a divided scale. The physiological effects had suggested that the rays might by nerve stimulation be made useful in some cases of blindness. Under some circumstances the normal retina possessed a faint perception for the rays. The matter had been fully discussed by their secretary, Dr. Walsh, in a book on the medical aspects of the rays. As regarded the physical problems presented by the rays there was a large field of problems awaiting solution. The rays had been found to possess a dissociating or, more strictly, an ionising effect on the molecules of gases through which they passed, with the result that electrified bodies in an atmosphere thus affected became discharged. Many theories had been advanced as to the exact nature of the rays; Crookes, Tesla, and others held them to consist of flights of atoms or sub-atoms; others that they were made up of transverse waves of excessively minute wave-length; others, again, regarded them as longitudinal; while Sir George Stokes thought they might be transverse waves, not in regular trains, but consisting of innumerable solitary waves. Another wide field of research lay in the investigation of analogous kinds of rays that affected photographic plates, such as those of the salts of uranium, fire flies, glow-worms, and sticks of phosphorus. It was clear that their little society had an abundant field. Already three special journals existed—namely, in England, in America, and in Germany. In conclusion he appealed for the foundation of a London institution where earnest investigators might pursue the study of the physical sciences.

At the close of the address a vote of thanks was moved by Sir WILLIAM CROOKES and seconded by Professor GLADSTONE.

The rest of the evening was devoted to lantern demonstrations (Mr. Greenhill), screens (Mr. T. Moore), and an exhibition of apparatus and photographs.—The President showed Tesla's new coil, in which the primary was wound round the secondary and gave high frequency oscillatory discharges direct from any ordinary supply with little expenditure of energy.—Professor Gladstone showed photographs of metals in order of absorption of the rays, by which he proved that the process was governed by weight rather than by density.—Dr. Davidson and Mr. Hall Edwards each demonstrated a localising apparatus.—A good collection of coils and tubes was shown by Messrs. Newton, Cossor, Schall, Binko, Miller and Woods, and others.—Among the photographs were skiagrams of bullets taken by Mr. F. C. Abbott in the Turco Greek War.—An interesting number of natural history specimens and Dr. Macintyre's cinematographic apparatus adapted to the rays were shown by Dr. Norris Wolfenden.—Dr. Walsh showed an interesting comparison of anæmic and turgid hands on the same plate.—Mr. Griffith Wilkin exhibited skiagrams of the temporal bone and middle ear.—Mr. Gifford brought some early and modern work.—Mr. Campbell Swinton sent an admirable collection, including a representation of Lord Salisbury's hand.—Dr Barry Blacker exhibited some good work, as did Messrs. Moore and Webster.—One of the chief practical advances has been in the shortening of exposures.—Mr. Webster showed a skiagram of a hand taken in one second, and Mr. Greenhill one of an adult skull and of a pelvis each taken in five minutes.—Mr. Ernest Payne contributed photographs of mercurial contact breaks, and a number of interesting photographs were sent by Dr. Cotton (Bristol), Dr. Low, Dr. Newman, Dr. Nathan Raw (Liverpool), Dr. Cake Squance (Newcastle), Mr. Gerard Smith, Mr. Hinton Bateman, and others.—This branch of the exhibition was managed by Mr. Snowden Ward, while Mr. Webster organised a musical entertainment.

THE HOSPITAL REFORM ASSOCIATION.

A MEETING of this association was held at the Athenæum Hall, North-street, Brighton, on Friday last, Nov. 5th, under the presidency of Sir JOSEPH EWART.

Sir JOSEPH EWART made a spirited introductory speech. He referred to the statement of Sir William Broadbent to the effect that the present system was practically the misappropriation of charitable money, and that a good deal of that money if saved could be better utilised in further perfecting the arrangements for the treatment of those who were really deserving and really required relief.

Mr. GARRETT HORDER, the honorary secretary of the association, then gave a short address, in which he said: "The question we have met to discuss this evening is one that may fairly be said to affect all classes of society, and it would be a great mistake to discuss it from a professional point of view only. The aim of the Hospital Reform Association has been to convince the public that the present system of administering medical relief in our hospitals and dispensaries is neither fair to the philanthropists who support them, to the deserving sick poor who seek relief in them, nor to the medical profession, without whose aid they could not be carried on. I have mentioned these points because it has been stated from time to time that the association with which I am connected was established for the sole purpose of looking after the interests of the medical profession. That this is not the case is, I think, proved by the fact that we have invited laymen to become members, and have invariably at all our meetings sent invitations not only to the managers of hospitals, but to all persons taking an interest in the organisation of charities. That reforms are wanted will hardly be denied, but if there are any who are sceptical about it I would refer them to the pages of THE LANCET and the *British Medical Journal*, to the proceedings of the Charity Organisation Society, and locally to one of your esteemed practitioners, Dr. Francis Waring. To Dr. Waring must be given the credit for pointing out the necessity that exists for reform in the administration of the Brighton medical charities. Hospital abuse may be divided into two distinct parts, one part—and, in the opinion of many, the most important part—being the attendance of people who do not stand in need of hospital treatment; and the other being the attendance of persons who could afford to pay for the treatment of their complaints. This form of abuse is not confined to the working-classes. Evidence has been forthcoming proving that tradesmen of all classes have sought and obtained relief in our medical charities. Subscribers themselves often abuse their privileges by recommending members of their own household for treatment. Reform is also required in other directions. There is nowadays an undue multiplication of hospitals. Take your own town, for instance. You have the Sussex County Hospital, the Sussex Eye Hospital, the Hospital for Women, the Hospital for Sick Children, the Throat and Ear Hospital, the Brighton, Hove, and Preston Dispensary, the Dental Hospital, and the Brighton, Hove, and Preston Provident Dispensary. In the year 1895 I find that there were 2392 in-patients, 35 522 out-patients, 3476 casualty patients, and 1172 maternity cases treated at these institutions exclusive of the cases treated at the Provident Dispensary. It will, however, hardly be contended that there are 40,000 persons—or more than a fourth of the population of Brighton and Hove combined—so poor as not to be able to pay either private practitioners or the small fees of your Provident Dispensary. On looking over the report of the Provident Dispensary I find that in spite of the great increase in the population the number of members in the year 1895 was actually less than it was in 1876. It is easy to account for this want of support when one consults the report of your Free Dispensary and sees the enormous number of people attended by its officers. Would it not be a good plan to

amalgamate the two institutions and thus encourage the growth of thrifty habits?"

Dr. FRANCIS WARING then moved:—

"That this meeting is of opinion that the time has arrived when an investigation should be held into the mode of administering medical relief in the hospitals and dispensaries of Brighton and Hove, and it is further of opinion that this investigation should be conducted by a committee which should be representative of all interests concerned."

In moving the resolution he disclaimed all unfriendly spirit to the institutions of the town, but he believed that some step should be taken to safeguard their charities against abuse.

Mr. S. COWELL who supported the resolution, claimed that the abuse at the Sussex County Hospital was next to *nil*.

Mr. R. P. HOOPER, Dr. DILL, Mr. DENNANT, Mr. DODD, and the Rev. C. W. BOND also spoke in favour of the resolution, which was carried amid applause.

Mr. Hooper, Dr. Waring, Mr. Dodd, and Dr. Marsh were appointed a provisional committee.

The meeting closed with a vote of thanks to the chair.

INTERNATIONAL LEPROSY CONFERENCE, BERLIN, 1897.

THE following is a condensed report of the conclusions of the Conference:—

"At the close of the debates of the International Leprosy Conference, Berlin, 1897, the secretaries have the honour to present the following short report of the general conclusions of the Conference. They believe that such a *résumé* will be especially desirable for those members who have been delegated by their respective Governments and who have to make reports on the results of the Conference.

"As might be expected, a considerable portion of the discussion has related to the bacillus lepræ, which the Conference accepts as the virus of leprosy, and which for upwards of twenty-five years has been known to the scientific world through the important discovery of Hansen and the able investigations of Neisser.

"The conditions under which the bacillus grows and develops are still unknown, as well as the way of its invasion into the human system; but from the discussions of the conference it seems probable that an unanimity of opinion will soon prevail in reference to its modes of subsequent dissemination within the human body. Very interesting observations have been brought forward in connexion with the elimination of the bacilli in large quantities by means of the skin and nasal and buccal mucous membranes of lepers; it is desired that such observations be confirmed where opportunities occur. The question is of very great importance to those who are entrusted with the care of the public health, as leprosy is now acknowledged to be a contagious disease.

"Every leper is a danger to his surroundings, the danger varying with the nature and extent of his relations therewith and also with the sanitary conditions under which he lives. Although among the lower classes every leper is especially dangerous to his family and fellow workers, cases of leprosy frequently appear in the higher social circles. The theory of heredity of leprosy is now further shown to have lost ground in comparison with the at present generally accepted theory of its contagiousness. The treatment of leprosy has only had palliative results up to the present time. Serum therapy has so far been unsuccessful.

"In view of the virtual incurability of leprosy and the serious and detrimental effects which its existence in a community causes, and considering the good results which have followed the adoption of legal measures of isolation in Norway, the Leprosy Conference, as a logical issue of the theory that the disease is contagious, has adopted the following resolution proposed by Dr. Hansen and amended by Dr. Besnier: '1. In such countries where leprosy forms foci or has a great extension we have in isolation the best means of preventing the spread of the disease. 2. The system of obligatory notification, of observation and isolation as carried out in Norway, is recommended to all nations with local self-government and a sufficient number of physicians. 3. It should be left to the legal authorities after consultation with the medical authorities to take such measures as are applicable to the special social conditions of the districts.'

"Secretaries of the Conference:
PHIN. S. ABRAHAM, London.
ED. ARNING, Hamburg.
A. VON BERGMANN, Riga.
E. DUBOIS HAVENITH, Bruxelles.
J. J. KINYOUN, Washington.
G. THIBIERGE, Paris.
EDV. EHLERS, Copenhagen (Gen. Secretary)."

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Dumbartonshire County District.—The general death-rate of the landward portion of this county (14·91) for 1896 was the lowest on record, and fewer cases of infectious disease were notified than in any year since notification came into force. There were no outbreaks of note during the year, but one case of typhus fever was notified. Dr. McVail reports that a site for two isolation hospitals has now been decided upon, one for the western district of the county and the other for two parishes in the eastern district. In the former district a good scheme has been arranged, after apparently considerable difficulty, with the burgh of Dumbarton. Some progress has been made in the matter of river pollution, but, as Dr. McVail observes, the amount is not commensurate with the energy expended upon the subject. Attempts are, it appears, being made to prevent vessels anchoring in, or plying on, the Garelock from discharging excrement or refuse into the water. As regards water-supply Dr. McVail reports that the proposed supply for two villages had to be given up owing to the peaty nature of the water. It was proposed by certain analysts to treat the water by placing blocks of sulphate of alumina in its course and allowing the peaty matter to precipitate in the reservoir. Dr. McVail, however, after due consideration, did not feel himself justified in recommending this supply.

Stirling County District.—Stirlingshire, like unto Dumbartonshire Dr. McVail's other county, had for 1896 a death-rate lower than any yet recorded—i.e., one of 13·94 per 1000 as compared with a rate of 16·0 for the whole of Scotland; the lowest experienced since the operations of the Registration Act commenced in 1855. Complaints of the poisoning of fish in the River Boney gave rise to some interesting revelations. It seems that in a certain pool in the river, which was a suitable spot for fishing, there has been deposited a considerable quantity of lime. This lime has, it appears, been placed in the pool in order to sicken the fish and render their capture more easy. Caustic soda is, Dr. McVail says, sometimes used for the same purpose, its solubility rendering its detection more difficult than is the case with lime. It is clear, as Dr. McVail remarks, that where such practices as these obtain the prevention of pollution from other sources will be of but little avail in the matter of the protection of fish. The eastern district of Stirlingshire has been provided with good hospital accommodation, and the western district is in a fair way to be similarly equipped.

Lanark County District.—Four new isolation hospitals were occupied in this county during 1896, and in the present year two others will be completed. The Rivers Pollution Acts are being vigorously administered throughout the county by the public health committee of the county council. The worst offenders, however, appear to be the burghs, and the committee of the special drainage district have decided to take the matter in hand resolutely. Apart from the question of pollution by sewage it appears that there are between fifty and sixty collieries carrying on the process of coal dross washing, a process which is apt to cause very great inconvenience to manufacturers. Dr. J. T. Wilson has made a very interesting report upon this subject of coal washing, and it seems that the effluent from the coal washing process contains suspended solids to the extent of from 1 grain per gallon to as much as 29,985 grains. Seven collieries were reported to the Secretary for Scotland with a view to obtaining power for prosecution, but it appears from the

special attention which has been devoted to these cases much improvement has in the meantime resulted. Dr. Wilson has submitted to the executive committee of the county council an instructive report upon tuberculosis in the county of Lanark, and he has communicated with the county veterinary inspectors in reference to the extent of bovine tuberculosis. One officer reports that as a result of superintending the disposal of some 3000 carcasses, chiefly of dairy stock, he found that fully 25 per cent. were tuberculous. Another reports that, in his opinion, the disease exists to the extent of about 20 per cent. A third inspector reports that in some of the large dairies one-third to a half, and at times the whole of the herd, are affected. The experience of Mr. John Spier, of Newton Farm, Cambuslang, is extremely interesting. He supplies milk from such cows only as have stood the tuberculin test. During the past two years he has tested some 200 cows for his own use, the cows ranging from three to seven years of age; and although he purchases the very best class of cows he finds fully 30 per cent. react to the tuberculin test. Mr. Spier has tested stock for other persons, and he has found a few stocks almost free, while a good many have almost the whole number affected. Dr. Wilson gives an interesting account of the methods of testing and the process of exclusion practised in Paris, and of Professor Bang's experience with a Danish herd. From an account by Mr. James Wilson of the Castlecraig herd of the Aberdeen Angus cattle, it seems that "the spread of the disease has been completely arrested," the only alteration in the management of the herd being the annual testing and the separation of the unsound from the sound. As Dr. Wilson observes, these tests are most encouraging provided tuberculin can be absolutely relied upon as a test.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6829 births and 3822 deaths were registered during the week ending Nov. 6th. The annual rate of mortality in these towns, which had been 16·9 and 17·6 per 1000 in the two preceding weeks, further rose last week to 18·1. In London the rate was 18·5 per 1000, while it averaged 17·9 in the thirty-two provincial towns. The lowest rates in these towns were 11·2 in Croydon, 11·5 in Leicester, 12·1 in Derby, and 13·9 in Bristol; the highest rates were 21·5 in Wolverhampton, 21·8 in Oldham, 22·1 in Burnley, and 23·4 in Liverpool. The 3822 deaths included 412 which were referred to the principal zymotic diseases, against 429 and 463 in the two preceding weeks; of these, 128 resulted from measles, 82 from diphtheria, 64 from diarrhœa, 51 from "fever" (principally enteric), 46 from scarlet fever, and 41 from whooping-cough. The lowest death-rates from these diseases were recorded in Birkenhead, Salford, Croydon, Brighton and Nottingham, and the highest rates in Preston, Halifax, Burnley, and Wolverhampton. The greatest mortality from measles occurred in Gateshead, Manchester, Blackburn, Halifax, and Wolverhampton; from "fever" in Huddersfield and Gateshead; and from diarrhœa in Oldham, Blackburn, and Preston. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. The 82 deaths from diphtheria included 59 in London, 5 in Cardiff, 3 in Wolverhampton, and 3 in Birmingham. No fatal case of small-pox was registered during the week under notice either in London or in any other of the thirty-three large towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals on Saturday last, the 6th inst. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on the same date was 3680, against 3725, 3685, and 3682 at the end of the three preceding weeks; 339 new cases were admitted during the week, against 440, 342, and 416 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 279 and 326 in the two preceding weeks, further rose to 363 last week, but were 37 below the corrected average. The causes of 42, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Nottingham, Oldham, Bradford, and in nine other smaller towns; the largest proportions of uncertified deaths were registered in Swansea, Liverpool, Blackburn, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 19·9 per 1000 in the two preceding weeks, further declined to 18·8 during the week ending Nov. 6th, but exceeded by 0·7 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 10·4 in Leith and 11·9 in Perth to 21·7 in Paisley and 26·2 in Greenock. The 560 deaths in these towns included 18 which were referred to scarlet fever, 16 to whooping-cough, 14 to diarrhœa, 12 to measles, 5 to "fever," and 5 to diphtheria. In all, 70 deaths resulted from these principal zymotic diseases, against 86 and 79 in the two preceding weeks. These 70 deaths were equal to an annual rate of 2·3 per 1000, which was slightly above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of scarlet fever, which had been 4 and 12 in the two preceding weeks, further rose to 18 last week, of which 10 occurred in Edinburgh and 5 in Glasgow. The 16 deaths referred to whooping-cough exceeded by 1 the number in the preceding week, and included 12 in Glasgow and 3 in Aberdeen. The fatal cases of measles, which had increased from 3 to 8 in the four preceding weeks, further rose to 12 last week, of which 6 occurred in Glasgow and 6 in Greenock. The 5 deaths referred to different forms of "fever," showed a slight further decline from those registered in recent weeks, and included 3 in Glasgow, where 4 of the 5 fatal cases of diphtheria were also recorded. The deaths from diseases of the respiratory organs in these towns, which had been 144 and 137 in the two preceding weeks, rose again to 142 last week, and were 12 above the number in the corresponding period of last year. The causes of 27, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·2 and 28·2 per 1000 in the two preceding weeks, declined again to 21·5 during the week ending Nov. 7th. During the past five weeks of the current quarter the death-rate in the city has averaged 23·4 per 1000, the rate during the same period being 16·9 in London and 18·6 in Edinburgh. The 144 deaths registered in Dublin during the week under notice showed a decline of 45 from the number in the preceding week, and included 12 which were referred to the principal zymotic diseases, against numbers declining from 39 to 8 in the six preceding weeks; of these, 8 resulted from "fever," 2 from diphtheria, 1 from whooping-cough, and 1 from diarrhœa. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 2·5 both in London and in Edinburgh. The deaths referred to different forms of "fever," which had been 7, 6, and 0 in the three preceding weeks, rose again to 8 last week. The fatal cases of diphtheria, which had been 1 in each of the two preceding weeks, rose to 2 last week. The mortality from diarrhœa was below that recorded in any recent week. The 144 deaths in Dublin last week included 21 of infants under one year of age and 30 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a marked decline from the numbers recorded in the preceding week. Five inquest cases and 3 deaths from violence were registered; and 51, or more than a third, of the deaths occurred in public institutions. The causes of 5, or more than 3 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1897.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during October in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 16·0 per 1000 of the population, estimated at 4,463,169 persons in the middle of this year. In the three preceding months the rates had been 11·2, 10·2, and 13·3 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Paddington, Hammersmith, Chelsea, St. George Hanover-square, Westminster, Holborn, and Lewisham; while they showed the largest excess in Clerkenwell, Limehouse, Poplar, St. Olave Southwark, Rotherhithe, Battersea, and

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS OF LONDON—OCTOBER, 1897.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1897.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,463,169	1	2980	1370	1	506	6	27	591	—	5483	16·0	—	166	76	216	84	1	79	1	100	723	2·1	5518	16·1	132
West Districts.																										
Paddington	126,161	—	60	19	—	9	—	—	10	—	98	10·1	—	—	1	1	1	—	—	—	3	6	0·6	113	11·7	105
Kensington	171,427	—	103	40	—	22	—	1	19	—	185	14·1	—	10	5	11	1	—	5	—	1	33	2·5	205	15·6	160
Hammersmith	105,969	—	55	10	—	4	1	—	13	—	83	10·2	—	—	1	—	—	—	3	1	—	5	0·6	104	12·8	96
Fulham	120,040	—	101	37	—	8	—	2	12	—	160	17·4	—	4	1	6	4	—	1	—	3	19	2·1	139	15·1	96
Chelsea	96,692	—	32	29	—	5	—	2	11	—	79	10·7	—	1	1	6	2	—	2	—	3	15	2·0	100	13·5	120
St. George Hanover-square	80,330	—	20	18	—	8	—	—	10	—	56	9·1	—	—	—	5	3	—	—	—	—	8	1·4	75	12·2	121
Westminster	53,027	—	22	8	—	3	—	1	5	—	39	9·6	—	5	1	4	3	—	2	—	—	15	3·7	88	21·6	154
St. James Westminster	22,576	—	10	6	—	3	—	—	2	—	21	12·1	—	4	3	—	1	—	1	—	—	9	5·2	39	22·5	186
North Districts.																										
Marylebone	140,808	—	67	30	—	15	—	2	22	—	136	12·6	—	1	1	3	2	—	2	—	2	11	1·0	169	15·6	104
Hampstead	77,275	—	42	11	—	7	1	—	3	—	64	10·8	—	—	—	2	1	—	1	—	2	6	1·0	56	9·4	97
St. Pancras	242,255	—	125	95	—	54	3	2	54	—	333	17·9	—	9	1	12	4	—	6	—	5	37	2·0	331	17·8	150
Islington	341,134	—	228	64	—	37	—	1	23	—	353	13·5	—	7	6	12	5	—	4	—	4	38	1·5	402	15·4	122
Stoke Newington	34,136	—	15	9	—	8	—	—	2	—	34	13·0	—	—	—	2	—	—	1	—	—	3	1·1	25	9·5	66
Hackney	216,698	—	197	83	—	37	1	—	33	—	361	21·1	—	9	4	16	4	—	4	—	—	37	2·2	255	15·3	120
Central Districts.																										
St. Giles	37,840	—	29	9	—	6	—	—	11	—	55	18·9	—	—	—	1	—	—	—	—	1	2	0·7	54	18·6	108
St. Martin-in-the-Fields	12,711	—	6	3	—	—	—	—	4	—	13	13·3	—	—	—	1	—	—	—	—	—	1	1·0	10	10·3	100
Strand	23,552	—	15	8	—	7	—	—	—	—	30	16·6	—	—	1	—	—	—	—	—	1	1	0·6	43	23·8	158
Holborn	30,493	—	8	8	—	2	—	—	4	—	22	9·4	—	1	1	2	1	—	1	—	1	7	3·0	66	28·2	125
Clerkenwell	66,162	—	45	49	—	5	—	—	14	—	113	22·3	—	4	1	8	3	—	—	—	4	20	3·9	118	23·3	207
St. Luke	41,279	—	32	21	—	5	—	1	7	—	66	20·8	—	2	—	1	4	—	—	—	3	10	3·2	67	21·2	93
City of London	30,228	—	14	2	—	7	—	—	2	—	25	10·8	—	—	—	1	1	—	3	—	1	6	2·6	34	14·7	23
East Districts.																										
Shoreditch	121,883	—	70	25	—	16	—	—	23	—	134	14·3	—	4	2	9	—	—	3	—	6	24	2·6	172	18·4	126
Bethnal Green	129,098	1	72	67	1	18	—	—	44	—	203	20·5	—	5	—	13	6	1	2	—	1	28	2·8	224	22·6	197
Whitechapel	79,724	—	32	20	—	6	—	—	12	—	70	11·4	—	3	1	1	1	—	2	—	4	12	2·0	151	24·7	162
St. George-in-the-East	47,917	—	32	25	—	9	—	—	6	—	72	19·6	—	10	1	3	2	—	5	—	1	22	6·0	85	23·1	134
Limehouse	58,508	—	93	26	—	9	—	1	12	—	141	31·4	—	1	3	5	4	—	—	—	1	14	3·1	102	22·7	165
Mile End Old Town	111,883	—	85	41	—	8	—	—	19	—	153	17·8	—	2	—	3	3	—	4	—	—	12	1·4	133	15·5	144
Poplar	169,811	—	128	75	—	45	—	2	26	—	276	21·2	—	5	4	13	5	—	4	—	12	43	3·3	232	17·8	157
South Districts.																										
St. Saviour Southwark	24,919	—	6	13	—	—	—	—	2	—	21	11·0	—	4	1	3	1	—	—	—	—	9	4·7	41	21·4	141
St. George Southwark	60,388	—	42	24	—	5	—	—	13	—	84	18·1	—	6	—	1	1	—	—	—	3	10	2·2	77	16·6	196
Newington	122,191	—	135	35	—	5	—	4	11	—	190	20·3	—	11	3	5	2	—	1	—	2	24	2·6	176	18·8	174
St. Olave Southwark	11,480	—	26	3	—	1	—	—	—	—	30	34·1	—	—	1	—	1	—	—	—	1	3	3·4	23	26·1	188
Bermondsey	85,629	—	81	20	—	3	—	—	15	—	119	18·1	—	7	5	1	2	—	1	—	5	21	3·2	144	21·9	168
Rotherhithe	40,643	—	44	13	—	3	—	—	13	—	73	23·4	—	—	3	1	1	—	2	—	—	7	2·2	60	19·2	200
Lambeth	300,048	—	195	75	—	23	—	4	31	—	328	14·3	—	8	3	14	1	—	—	—	10	36	1·6	307	13·3	115
Battersea	168,877	—	230	75	—	23	—	—	17	—	345	26·6	—	8	7	10	4	—	6	—	5	40	3·1	198	15·3	118
Wandsworth	195,612	—	94	62	—	10	—	1	18	—	185	12·3	—	—	1	8	2	—	1	—	5	17	1·1	172	11·5	99
Camberwell	257,575	—	121	89	—	38	—	—	27	—	275	13·9	—	34	4	5	4	—	6	—	5	58	2·9	326	16·5	142
Greenwich	178,367	—	90	53	—	21	—	1	19	—	184	13·4	—	1	8	8	2	—	4	—	1	24	1·8	195	14·3	128
Lewisham (excluding Penge)	86,152	—	44	10	—	3	—	—	11	—	68	10·3	—	—	1	2	1	—	—	—	1	5	0·8	75	11·3	75
Woolwich	41,409	—	24	15	—	1	—	—	3	—	53	16·7	—	—	—	6	—	—	1	—	2	9	2·8	47	14·8	124
Lee	39,215	—	29	18	—	1	—	—	3	—	52	17·3	—	—	—	1	—	—	1	—	1	3	1·0	32	10·6	36
Plumstead	61,057	—	71	27	—	6	—	2	5	—	111	23·7	—	—	—	11	1	—	—	—	1	13	2·8	53	11·3	79
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 34 cases of membranous croup.

† Including deaths from membranous croup.

Plumstead. One case of small-pox was notified in London during October, corresponding with the number in each of the two preceding months; this case belonged to Bethnal Green sanitary area. No small-pox case was admitted into any of the Metropolitan Asylum Hospitals during October, and no patients remained under treatment at the end of the month. The prevalence of scarlet fever in London showed a further marked increase upon that recorded in recent months; this disease was proportionally most prevalent in Fulham, Hackney, St. Giles, St. Luke, Limehouse, St. Olave Southwark, Rotherhithe, Battersea, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 3571 scarlet fever patients at the end of October, against 3064, 3390, and 3585 at the end of the three preceding months; the weekly admissions averaged 387, against 364, 346, and 350 in the three preceding months. The prevalence of diphtheria in London showed a considerable further increase upon that recorded in the two preceding months; among the various sanitary areas this disease showed the highest proportional prevalence in Clerkenwell, St. Luke, Bethnal Green, St. George-in-the-East, Limehouse, St. Saviour Southwark, Battersea and Lee. There were 1029 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of October, against 957, 1006, and 1033 at the end of the three preceding months; the weekly admissions averaged 155 against 139, 131, and 150 in the three preceding months. The prevalence of enteric fever in London during the month under notice showed a marked further increase upon that recorded in recent months; this disease was proportionately most prevalent in St. Pancras, Stoke Newington, Strand, City of London, St. George-in-the-East, and Limehouse sanitary areas. The Metropolitan Asylum Hospitals contained 175 enteric fever patients at the end of October, against 82, 133, and 173 at the end of the three preceding months; the weekly admissions averaged 26 against 20, 26, and 28 in the three preceding months. Erysipelas showed the highest proportional prevalence in St. Pancras, St. Giles, St. Martin-in-the-Fields, Bethnal Green, St. George Southwark, and Rotherhithe sanitary areas. The 27 cases of puerperal fever notified in London during October included 4 in Newington, 4 in Lambeth, and 2 each in Fulham, Chelsea, Marylebone, St. Pancras, Poplar, and Plumstead sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, October 30th, the deaths of 5518 persons belonging to London were registered, equal to an annual rate of 16·1 per 1000, against 18·3, 23·7, and 15·6 in the three preceding months. The lowest death-rates during October in the various sanitary areas were 9·4 in Hampstead, 9·5 in Stoke Newington, 10·3 in St. Martin-in-the-Fields, 10·6 in Lee, 11·3 in Lewisham and in Plumstead, and 11·5 in Wandsworth; the highest rates were 22·7 in Limehouse, 23·1 in St. George-in-the-East, 23·3 in Clerkenwell, 23·8 in Strand, 24·7 in Whitechapel, 26·1 in St. Olave Southwark, and 28·2 in Holborn. During the four weeks of October 723 deaths were referred to the principal zymotic diseases in London; of these 216 resulted from diphtheria, 166 from measles, 100 from diarrhœa, 84 from whooping-cough, 79 from enteric fever, 76 from scarlet fever, 1 from typhus, and 1 from an ill-defined form of continued fever. These 723 deaths were equal to an annual rate of 2·1 per 1000; in the various sanitary areas the lowest zymotic death-rates were recorded in Paddington, Hammersmith, St. Giles, Strand, and Lewisham; and the highest rates in Westminster, St. James Westminster, Clerkenwell, St. Luke, St. George-in-the-East, Poplar, St. Saviour Southwark, and St. Olave Southwark. The 166 fatal cases of measles were 54 above the corrected average number in the corresponding periods of the ten preceding years; this disease showed the highest proportional fatality in Westminster, St. George-in-the-East, St. Saviour Southwark, St. George Southwark, Newington, Bermondsey, and Camberwell sanitary areas. The 76 deaths referred to scarlet fever were 34 below the corrected average number; among the various sanitary areas this disease was proportionally most fatal in St. James Westminster, Limehouse, Bermondsey, and Greenwich. The 216 fatal cases of diphtheria were 22 above the corrected average number; the mortality from this disease was highest in Clerkenwell, Shoreditch, Bethnal Green, Limehouse, Poplar, St. Saviour Southwark, Woolwich, and Plumstead sanitary areas. The 84 deaths from whooping-cough were 4 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Clerkenwell, St. Luke, Bethnal Green, and Limehouse. The fatal case of typhus was of a person belonging to Bethnal Green sanitary area. The 79 deaths referred to enteric fever were 9 above the corrected average number; this disease was proportionally most fatal in City of London, St. George-in-the-East, Mile End Old Town, and Rotherhithe sanitary areas. The 100 fatal cases of diarrhœa were 76 below the corrected average number. In conclusion, it may be stated that the mortality in London from these principal zymotic diseases during October was nearly 4 per cent. below the average.

Infant mortality in London, measured by the proportion of deaths of children under one year of age to registered births, was equal to 132 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Stoke Newington, St. Luke, City of London, Lewisham, Lee, and Plumstead; and the highest rates in St. James Westminster, Clerkenwell, Bethnal Green, St. George Southwark, Newington, and Rotherhithe.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-CAPTAIN C. A. YOUNG has been placed under orders to embark for India shortly. Surgeon-Majors Coutts, Lilly, and Johnson, and Surgeon-Captains Pearse, Dalton, Tyrrell, and Mansfield have arrived home from India in the transport *Nubia*.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Colonel D. E. Hughes, M.D., having applied to retire on pension, Surgeon-Colonel G. Bainbridge, M.D., has been appointed Surgeon-General with the Government of Bombay, vice Surgeon-Major-General H. Cook, M.D., deceased.

NAVAL MEDICAL SERVICE.

Fleet Surgeon James Thomas William Stenteford Kelland has been placed on the retired list of his rank.

The following appointments have been announced:—Staff-Surgeons: John Ottley to the *Venus*, and William H. Norman to the *Rupert*, additional, for Gibraltar Hospital. Surgeon A. E. Merewether to the *Venus*.

VOLUNTEER CORPS.

Artillery: 1st Norfolk (Eastern Division, Royal Artillery): Surgeon-Lieutenant-Colonel T. H. Moxon resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement. 4th Lancashire: Surgeon-Major T. F. Young, M.D., to be Surgeon-Lieutenant-Colonel. *Rifle:* 4th Volunteer Battalion the Queen's (Royal West Surrey Regiment): Surgeon-Captain T. Lyndon, M.D., resigns his commission. 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment: Surgeon-Lieutenant E. P. A. Mariette, M.B., to be Surgeon-Captain. 2nd Volunteer Battalion the York and Lancaster Regiment: Brigade-Surgeon-Lieutenant-Colonel J. Blackburne resigns his commission; also is permitted to retain his rank, and to continue to wear the uniform of the battalion on his retirement, vacating at the same time his appointment as Senior Medical Officer to the East Yorkshire Volunteer Infantry Brigade.

THE VOLUNTEER OFFICERS' DECORATION.

The Queen has conferred the Volunteer Officers' Decoration upon the under-mentioned officers of the Volunteer Force:—*North-Eastern District: Artillery:* 2nd East Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Lieutenant-Colonel John Sherburn, M.B. *Western District: Rifle:* 4th Volunteer Battalion the Devonshire Regiment: Brigade-Surgeon-Lieutenant-Colonel John Raglan Thomas, M.D.

THE CONVEYANCE OF INVALIDS BY SEA.

Surgeon-in-Chief Bonnafy is the author of the leading paper in the *Archives de Médecine Navale et Coloniale* for

October, his theme being the comparative merits as invalid carriers of Government transports and chartered steamers. When Cochin China was first occupied by the French invalids used to be conveyed home in ordinary transports, but the unsuitability of this class of vessel for such a purpose soon came to be acknowledged, thanks mainly to the representations of Dr. Lalluyeaux d'Ormay, who was the principal medical officer of the colony. Admiral La Grandière, the governor, having adopted his adviser's views, an engineer named Cazelles was deputed to make a study of our late Anglo-Indian troopships, and the result was a fleet of seven specially designed hospital transports at a cost of about a million and a quarter sterling, the first only, *l'Annamite*, being constructed of wood and the others of iron. These vessels commenced to run in 1878, and continued to be more or less actively employed until the end of 1895, when they were immobilised. In 1885, however, it was found necessary to hire supplementary transports from private sources, and, curiously enough, during the next ten years, from 1886 to 1895 inclusive, the number of invalids carried in each class was almost identical, the totals having been 11 322 and 11,343 respectively. During these voyages 214 deaths took place in the Government vessels and 302 in those that had been chartered, and it is upon these figures that Dr. Bonnafy relies to prove the superiority of the hospital transports. He has no fault to find with the way in which the invalids were treated on board the private steamers. The utmost goodwill was invariably manifested by captains and *personnel*; but even apart from statistics he thinks it stands to reason that a specially constructed vessel under military discipline is bound to yield the best results.

LITERATURE FOR ARMY HOSPITALS.

The Government of India has issued an appeal for gifts of literature for the use of sick and wounded soldiers in military hospitals attached to the forces operating upon the Indian frontier. Light packets of books, periodicals, and newspapers will be conveyed free of charge for the use of hospitals by the Post Office in India. Packets should be addressed to "the Principal Medical Officer, Tochi Field Force," "Malakand Field Force," or "Tirah Expeditionary Force," as the case may be, and should be very clearly superscribed, "For sick soldiers." Why should not the proprietors of some of the illustrated papers published in London and large library book firms, like Mudie and W. H. Smith and Sons, put themselves in communication with the India Office in this country and offer some of their old, spare, and surplus papers and copies of light literature for the use of the sick and wounded in hospital provided that the Government would undertake to forward them?

DEATHS IN THE SERVICES.

Staff-Surgeon John Noble, R.N. (retired), at York, on the 8th inst. He was born in 1832, and entered the navy shortly after the commencement of the Russian War, in 1855, being appointed to serve in the ship *Majestic*, under Captain James Hope, ordered to the Baltic with the fleet under the command of Admiral Dundas. During a period of nearly twenty years he served on various ships in every quarter of the globe, being in the Chinese War of 1857, the Mexican Expedition of 1861, and in the Abyssinian Expedition of 1868. During the Chinese War he suffered so severely from fever that his life was despaired of, and he felt the effects as long as he lived. (Baltic medal for the Russian Campaign of 1854–55, the Canton medal and clasp for the Chinese War of 1857, and the Abyssinian medal for the campaign under Napier in 1868.)

VOLUNTEER MEDICAL ASSOCIATION.

The Council of the above association are now prepared to provide the instruction necessary for passing the examination for the proficiency certificate. The course will be confined to members of the Association, and will be free, a small charge being made to cover necessary expenses only. Instruction will be carried out either by correspondence, or, in the case of those who are resident in London or sufficiently near it, by lectures. The instructors are selected by the Council from among their members. Officers desiring to avail themselves of this course are asked to give notice to Surgeon-Major Watson, Hay Tor, Dennington-park, N.W. It is intended to commence the first course on Nov. 23rd.

THE GALLANT CONDUCT OF SURGEON-CAPTAIN W. G. BEYTS.

Surgeon-Captain W. G. Beyts has been specially brought to the notice of the military authorities in India for his gallant conduct in saving the life of Lieutenant North. We refer in more detail to the matter in another column.

Lieutenant E. W. Costello, V.C., on whom Her Majesty recently conferred the Victoria Cross for valour in connexion with the present Indian Frontier Campaign is a son of Surgeon-Colonel C. P. Costello, Indian Medical Service (retired), himself an officer of very distinguished service in the field.

Her Majesty the Queen has granted the Jubilee Medal to Surgeon-Major-General J. B. Hamilton, Principal Medical Officer of the Western District.

Correspondence.

"Audi alteram partem."

"THE MECHANISM OF DEATH FROM CHLOROFORM."

To the Editors of THE LANCET.

SIRS,—I would ask for space in your journal to offer criticism on Mr. Alexander Wilson's article on the above subject, published in THE LANCET of Sept. 11th, 1897, p. 656. In publicly describing cases of this sort, on which a theory as to the cause of death from chloroform poisoning is built up, it is essential that the observation should be of the most accurate and the report of the fullest description, and that for two reasons — first, that the reader may determine how far he may trust the accuracy of the observer, and, secondly, that he may determine for himself the cause of death—that he may determine, that is, whether death was the result of chloroform poisoning or not, and if it were, in what manner it occurred. It cannot be too strongly urged that in building up from the symptoms of certain cases a theory as to the mechanism of death from chloroform it is of absolute importance to prove that these symptoms were caused by the drug. No one will deny that death under chloroform may result, and does result, from causes quite apart from poisoning, such as, to give a single instance, from mechanical obstruction of the air passages. Anyone who wishes to build up a theory as to the mechanism of death from chloroform poisoning, must first take the trouble to show that the deaths on the symptoms of which he depends for the facts on which his theory is built are the result of chloroform poisoning.

In considering the cases given by Mr. Wilson let us first take Case 3 and see how far it fulfils these essentials. The report of it could scarcely give less information. Let it be noted that a failure of circulation so great that when the skin was incised no blood flowed passed entirely unnoticed. The administrator's observation cannot, then, be relied upon as correct, for it was manifestly imperfect. There is no evidence that he ascertained that the free respiration going on was accompanied by any entry of air into the chest. Indeed, no attempt is made to show that the death was the result of chloroform poisoning it is simply taken for granted. Of Case 2 the same may be said. The description is entirely inadequate. "Some peculiarity" was noticed about the colour of the face, and that by the operator and not by the anæsthetist. It may have been the pallor of shock or the duskiness of suffocation; we are not told. Nor do we know whether air was entering the chest or not. Blood or a portion of an adenoid growth in the air passage would be clinically shown by deep respiratory movements and a "peculiarity" in the colour of the face. As to failure of circulation its state is not even mentioned. In reading Case 1 the first thing which strikes one is that the whole series of dangerous events followed the beginning of the operation. They are symptoms such as are found associated, quite apart from chloroform, with painful shock; and they are those which occur from the powerful stimulus of a cut when the patient is not fully under the influence of the anæsthetic. In a word they are the symptoms not of danger from chloroform poisoning, but of shock from the operation due to insufficiency of chloroform. Nothing can be clearer from the description than that the shock immediately followed and presumably resulted from the intense stimulus of thrusting a gouge in the antrum. Then why lay it at the door of the chloroform? In Case 6, given as an illustration of a previously stated theory that failure of the circulation taking place at an early stage in the

administration of chloroform leads to convulsions, there is not the slightest evidence offered of any failure of circulation occurring previously to the convulsions. That cerebral anæmia will cause convulsions is one matter, but to say that because there were convulsions in this case, therefore there was antecedent failure of circulation is begging the question. We are told that the man "appeared as if about to vomit" but we are not told whether or not a post-mortem examination was made and vomited matter found in the trachea; nor are we even told whether or not he was the subject of epileptic fits. Indeed, no attempt is made to prove that there was either failure of circulation previously to the convulsions or, indeed, that the death was due to chloroform poisoning. In Case 7 there is the same want of detail and apparent lack of observation. The description is so worded that it reads as if it was only on the operator's wishing to begin his work that the patient's critical condition was noticed. Such a description is one to be avoided if one wishes to build up a theory on it. Still, the clinical picture is familiar enough. It is that of a man whose air passage is obstructed, say, by the root of his tongue. His respiratory movements are marked, his face becomes congested, but his pulse rapidly fails, and then his respirations do the same, and finally cease. I do not say that this is what occurred in this case; but it is absurd to ignore the fact that the symptoms are capable of being explained without the question of chloroform poisoning being considered, that no attempt is made to show that this is not the case, and that according to that explanation the failure of circulation is secondary.

On studying these cases one is driven to the following conclusions: That in none of these cases is the report sufficiently full to make it of value; that in none is an attempt made to show that the deaths occurred from chloroform poisoning; that in none is it proved that there was primary failure of circulation (indeed in Case 2 the state of the circulation is never referred to!); and that all can be explained readily as due to some well recognised cause apart from chloroform poisoning. This is not the foundation on which to build up a theory as to the cause of death from this drug. The chloroform controversy can only be settled by careful and minute clinical observation and record, made by men who are determined to ascertain in the case of every death under chloroform in which they are the administrators whether death resulted from chloroform poisoning or not. When the administrator has made this decision he will then, and not till then, be able to give his opinion as to the way in which the poison killed, but let me repeat, his first duty is to prove that the cases he is describing are cases of chloroform poisoning, and that Mr. Alexander Wilson has entirely omitted to do.—I am, Sirs, yours truly,

CLAYTON A LANE, M.D. Lond.,
Surgeon-Lieutenant, I.M.S.

Camp Shinowrie, Oct. 15th, 1897.

THE HOSPITAL SATURDAY FUND AND THE DISTRIBUTION OF AWARDS.

To the Editors of THE LANCET.

SIRS,—Your leading article on the recent meeting of the Hospitals Association emboldens me to ask for a little space in your columns. I agree, as I said at that meeting, that effective criticism is required, but, of course, to be effective it must be based on knowledge of the facts. You seem to fall into the common mistake that the Hospital Saturday Fund system of distribution is somehow based on its supposed inordinate desire for letters of recommendation. This is an entire mistake. If a hospital answers in reply to our question whether it will allow letters in the same proportion as to other subscribers, that it will not, it looses one mark, which will affect the award to the extent of from £1 15*s.* to £2; for the rest the award proceeds according to rule, and the question of letters is not even considered. It is true that we find that our subscribers do make demands on us for letters of recommendation which cannot be satisfied out of the letters which they give us, as they give them to the Hospital Sunday Fund, in return for our grants. We therefore, before deciding what amount is to be distributed, deduct an amount sufficient to enable us to meet these demands and purchase the letters on the terms agreed on between ourselves and the hospital. But the matter is really a very small one. At our last distribution we paid away strictly according to our published system £16,059 10*s.* to different medical charities and reserved £950. Last year, when the amount reserved was £900 (the figures for this year are not, of course, yet complete), we spent £543 1*s.* in the purchase of hospital letters and £584 1*s.* 6*d* in sending patients to convalescent homes, towards which the patients themselves paid £293 14*s.* 6*d*. Of course, with regard to letters sent in return for our grants we are in the same position as the Hospital Sunday Fund, which receives letters practically in the case of the in-patient hospitals in the same proportion as we do, and distributes them among the ministers of religion. I do not wish to defend the alleged demerits of the Hospital Saturday Fund in this respect, and will only ask your readers to remember that if we sin we sin in company with the Hospital Sunday Fund, and that any contribution we make to the funds of the hospitals is gathered in the main from those who would in any case find their way to the hospitals.

I should like, if I am not trespassing too much on your space, to add a few words on the discussion which took place, as I am in cordial agreement with you as to the advantage which would be obtained by further discussion. I am extremely grateful to our critics, and hope I have learnt a good deal which will be useful to us; but I was "unwilling to verge towards anything which might be considered to be personality." Your leading article has to some extent removed that unwillingness, so I venture to point out that apart from the letter question all the criticisms were aimed at that part of our system which deals with the awarding for economy and efficiency marks. Not a word was said by any speaker about our main principle of awarding marks for relief which corresponds very nearly to the "arithmetical basis" of the Hospital Sunday Fund. This "arithmetical basis," according to Sir Sydney Waterlow, is "raised or lowered at the discretion of the committee," but the meeting was left in complete ignorance as to the principles upon which the committee act in raising or lowering the basis beyond the statement that the data which we consider in the manner I described were considered by them also. That the power exercised by the committee is very great is obvious from the following example. The arithmetical basis of Guy's Hospital ascertained according to the method described cannot have been very different in 1896 and 1897, but I find that the award in 1896 was £814 11*s.* 8*d.* out of a total of £41,829, while in 1897 it was £1312 10*s.* out of £39,705 15*s.* 6*d*, an increase on a smaller total to be distributed of not less than 62 per cent., or, in other words, while in 1896 rather less than 2 per cent. of the total amount to be distributed was awarded to Guy's Hospital, in 1897 rather more than 3½ per cent. is given to that hospital. I have no doubt that this is in accordance with the principles adopted by the distribution committee, but some information as to the principles which permit so great a variation would be useful and instructive. Had I on behalf of the Hospital Saturday Fund maintained the same silence on this part of our system, apparently not even the energy of my friend Sir Henry Burdett could have galvanised the discussion into life.

I am, Sirs, your obedient servant,

R. B. ACLAND,
Chairman, Hospital Saturday Fund.

Hare-court, Temple, Nov. 8th, 1897.

"THE HOSPITALS, THE PROFESSION, AND THE PUBLIC."

To the Editors of THE LANCET.

SIRS,—I cannot think that the general practitioners will welcome with any heartiness Sir Henry Burdett's proposal for paying annexes to our hospitals. They would in my humble opinion pauperise the public, who would pay inadequate fees, and ruin the general practitioner; and while accomplishing their undesigned ends would not supply any better clinical treatment for the poorer sick of all grades than can now be obtained. If Sir Henry Burdett, having satisfied the exigencies of the examiners, becomes a medical man, and then aspires to occupy a seat on the General Medical Council as a Direct Representative, it is clear to me that he must alter his attitude towards the general practitioner or he will not obtain the necessary votes. He has possibly damaged the general practitioner already by his words, whatever interpretation he may wish to have set upon them. The *World* of Oct. 27th says with reference to his speech that "Sir Henry Burdett acutely implied that were the poorer medical men better educated their patients would not go to hospitals." So that

whatever Sir Henry Burdett's views may be he has contrived to cast a slur on the rank and file of the profession. For it cannot be good for us general practitioners that a journal of good repute and very large lay circulation should say such things of us, even on Sir Henry Burdett's authority.

I am, Sirs, yours faithfully,

Tillingham, Nov. 7th, 1897. F. S. D. HOGG.

A NOTE ON CYCLING.

To the Editors of THE LANCET.

SIRS,—One of the advantages of cycling is that it renders possible a great deal of outdoor exercise without fatigue. How are we to explain the wide difference in this respect between it and the natural modes of progression? There are, I suggest, two chief reasons. In cycling (1) the legs have not to support the body; and (2) the vascular column is shortened. 1. The legs having no work of support can devote themselves entirely to that of propulsion, whereas in walking and running much of the energy expended by the muscles of the lower extremities is spent in supporting and balancing the body. Even the mere act of standing involves a considerable expenditure of muscle energy both by the leg and trunk muscles, while in cycling not only are the leg muscles wholly freed from the work of support and balance, but the trunk muscles are largely relieved from the latter function if the proper sitting posture be assumed. What do I mean by the proper sitting posture? If a person sits so as to ride at ease he should hunch the back somewhat, since this involves the expenditure of much less muscle energy than the bolt-upright position. This is one reason why the back should be well arched in cycling. 2. Man is distinguished from all other mammals by his erect posture. This, while securing him great advantages by enabling him to devote the upper extremities for independent purposes, places him at many disadvantages. If an intelligent extramundane being were to see man for the first time in the horizontal posture it would surely never occur to him that it is natural for man to be erect. There is something incongruous in an animal built on the horizontal plan standing and progressing upon one end of its long axis. Yet this is what man is, and what he does, and it places him at a twofold disadvantage. First, in the matter of progression it leaves him with but two legs to walk with, and the muscles of these two, as already observed, have to expend a great deal of their energy in balancing the body, which from its upright posture is much more difficult to balance than in the case of the quadrupeds. Secondly, the height of the blood column is increased, the influence of gravity on the circulation being correspondingly increased. In particular, as Leonard Hill has so ably shown, there is a tendency for the blood to gravitate into the splanchnic area when the erect posture is assumed, and I cannot but think that the fatigue of standing and walking is largely due to this tendency. It is normally counteracted by the contraction of the splanchnic arteries, by the pressure of the firmly-contracted abdominal muscles on the splanchnic veins, and by the negative intra-thoracic pressure, and in cycling it is much reduced and for at least three reasons: (1) the mean distance between the head and the feet is much reduced, and here we have an additional reason why the body and head should incline well forward; (2) the splanchnic veins are compressed by the rhythmic flexion of the thighs on the abdomen, the pressure being increased by the forward attitude; and (3) the aspiratory action of the thorax is increased owing to its increase in mean size, this occurring in all active exercises. That the forward attitude tends to contract the chest is an altogether fallacious notion.

It will thus be seen that there are several reasons why the body should be bent forward in cycling. It may be argued that this attitude, even though physiological, is inelegant. I do not hold this view. An expert rider, properly clad, looks far better bending somewhat forward than sitting rigidly upright, the bend falling in harmony with the curves of the wheels; it suggests ease, grace, and perfect command of the machine. Women pride themselves upon sitting more upright than men, but then few of them have yet learned to ride gracefully; moreover, they have not yet discovered a suitable cycling costume.

I am, Sirs, yours faithfully,

HARRY CAMPBELL, M.D. Lond.

Wimpole-street, W., Nov. 8th, 1897.

A PLEA FOR STRICT CHRONOLOGY.

To the Editors of THE LANCET.

SIRS,—I have recently received the current volumes of the Transactions of various medical societies to which I belong, and I should like to call attention to the way in which their editors confound all historical truth by adding titles retrospectively to past presidents and other worthies. Thus in the list of presidents of the Clinical Society I find under 1869 Sir James Paget, Bart., but he did not receive his title till 1871; under 1871 Sir William Gull, Bart., whereas he was then Dr. Gull; under 1873 Sir Prescott Hewett, who became a baronet many years later; and then under 1881 *Lord* Lister! But the editor of the Medico-Chirurgical Transactions confounds history still more, for he makes Astley Cooper a baronet in 1819 and William Lawrence in 1831 instead of thirty-six years later! Let the societies take example by the College of Surgeons, in whose Calendar no titles are given unless actually existing at the time of election.

I am, Sirs, yours obediently,

Nov. 8th, 1897. HISTORICUS.

OVERCROWDING IN FACTORIES AND WORKSHOPS.

To the Editors of THE LANCET.

SIRS,—Would any of your readers be so good as to inform me whether or no a London medical officer of health is bound, legally, by the definition of the term "overcrowding" as laid down under Section I. of the Factory and Workshop Act, 1895—namely, less than 250 cubic feet per person during ordinary working hours, and 400 cubic feet during overtime. If not so bound, what minimum standard of floor and air space—with a nearer approach to the actual physiological needs of the individual—might be adopted (with a fair prospect of success before a magistrate) in the case of toilers in (1) factories; (2) workshops (other than "domestic" workshops which clearly come under the provisions of the Public Health Act); and (3) other workplaces—e.g., laundries.

My reason for raising this vexed question of overcrowding is the noticeable fact that the death-rate from lung diseases amongst indoor workers and other dwellers in densely-crowded (and often ill-drained) districts is in excess of that which obtains in more sparsely populated neighbourhoods.

I am, Sirs, yours faithfully,

Nov. 7th, 1897. M.O.H.

THE EPIDEMIC OF TYPHOID FEVER AT LYNN.

(FROM OUR SPECIAL COMMISSIONER.)

(Continued from p. 1210.)

To continue the story of the past sanitary history of Lynn, previously to the outbreak at Lynn in 1892 there had been cases of typhoid fever at Gaywood above the intake of the Lynn water. The house where these cases occurred had a box privy, and the contents of the box were emptied in a garden that slopes down to the river, which is only at a distance of fifty yards. Later, during the course of the illness, the dejecta from the patients were emptied into a shallow pit dug at only thirty-five yards distance from the river. This pit was but two feet deep and two feet square. From February 14th to 21st there fell 1·24 inches of rain and snow. It was at the latter date, when the thaw occurred, that the greater part of this water was able to run down into the river, and seven days later the diarrhœa patients at Lynn began to manifest symptoms of enteric fever. By analysis it was also shown that the water of the river is much more polluted after a heavy fall of rain. Naturally a heavy flow of water brings down to the river the manure from the fields, the contents of shallow privies, and the human excrement which is spread out over the gardens. The connexion between the water-supply and the typhoid fever epidemic of 1892 was thus clearly established, and the inhabitants of the town of Lynn had these facts set before them in a masterly manner by Dr. Bruce Low, who reported on the subject to the Local

Government Board. After such an experience it would be natural to conclude that the one end and aim of the citizens of Lynn would be to secure at once a proper and safe water-supply.

The town council, acting upon this supposition, commissioned the borough surveyor, Mr. E. J. Silcock, Assoc. M.Inst C.E., to draw up a scheme, and this was done with great promptitude. Experiments were made to ascertain whether the yield at Sow Head springs could be increased and it was proposed to take the water at its source in the chalk and bring it direct to Lynn in iron mains. In 1893 the Corporation prepared a Bill, which they hoped to pass in Parliament during the session of 1894, that would give them full powers to deal with the whole question. But, as in 1884, it was necessary according to the law to convoke a meeting of ratepayers. After the lesson taught by the recent epidemic, and after all that has been said and written during the previous years, it was thought the ratepayers would have learnt that it was a matter of humanity, of duty, and even a wise economy to incur the expense of securing a proper water-supply. Nevertheless, the fear of increased rates blinded them to any such considerations. By a large majority the ratepayers voted against the proposed scheme. This seemed so preposterous that a poll was demanded, but the results of the poll were even more disastrous, and by their votes the inhabitants of Lynn clearly showed that they preferred drinking sewage and graveyard water rather than augment the rates so as to procure a pure supply. Thus matters came to a deadlock. The town council was defeated by its own electors, and certainly if the question had been left exclusively in the hands of the majority of the ratepayers nothing whatsoever would have been done. Fortunately Mr. Silcock discovered a way out of the difficulty. If water is to be taken from a river on which riparian rights have been acquired the sanction of Parliament must be obtained; but if water can be abstracted from undefined channels now underground without interfering with any existing water rights, then an Act of Parliament is not necessary, and, what was more important in this case, the ratepayers need not be called upon to approve the project. The Local Government Board was consulted and agreed with this view of the situation.

Under these circumstances it became necessary only to secure a provisional order for the compulsory purchase of two plots of land. On one it was proposed to sink wells and on the other to establish a reservoir. Then it was also necessary to obtain the sanction of the Local Government Board to borrow the required money. Before this was granted in full the Local Government Board held three inquiries. The first took place in March, 1894, and a partial loan was sanctioned in the following September. The money thus obtained only sufficed to sink a well and prove the existence of the water. This work was commenced in November, 1894. At this point the town council made a serious mistake. Instead of entrusting the work to the most competent person they gave the preference to the contractor who made the lowest tender. This is a very common but a fatal failing. The result was that the contractor, instead of completing the work in nine months, had not finished at the end of a year. The contractor then failed and the town had to take up the work where he had left it and complete the wells themselves. They were therefore not terminated till April, 1896, and thus precious time had been lost. But this was not the only difficulty. To get the money it was necessary for the town council to vote in favour of the loans. The councillors individually approved the scheme, but it had been rendered very manifest that it was opposed by their electors, so they hardly dared to vote in its favour. Still, somehow or another, narrow majorities were obtained as detail after detail was brought forward, though on one occasion the situation was only saved by the casting vote of the chairman.

The wells having been dug, the yield of water proved satisfactory, and the next stage was to obtain sanction for the rest of the loan. Application for this was made in April, 1896, and then followed another disappointment. For some unaccountable reason the sanction was not obtained before November 13th following. Though the wells had been completed in April the Local Government Board did not begin their investigation till the following August. Every detail had been previously supplied, yet they were still making inquiries in September. The sanction for the balance of the loan having been finally obtained in November it was necessary to get out the tenders, and the actual work could not be begun before January of this year. Now if no accidents occur, and if the engineers' strike does not interfere with the undertaking, the new water-supply will be ready for distribution in about six months. In the meanwhile there has been a repetition, almost identical in its details though more serious in its effects, of the epidemic of 1892. In February of that year as has been seen there was a fall of 1·24 in. of "rain" in the course of eight days, which brought filth to the Gaywood River and was followed by an outbreak of typhoid fever at Lynn. This year on Sept 29th a great storm occurred, and in a few hours there was a fall of 2·50 in. of rain. Again a great scouring took place, and the surface storm water brought a large amount of filth to the Gaywood River. Twenty-three days afterwards twenty-six cases of typhoid fever were notified, and it was evident that a serious epidemic had commenced. Surely this second lesson ought to convince the ratepayers of Lynn that it is necessary to have a supply of clean water. Those who were most opposed to the scheme are now seeking to make out that the water is not properly filtered. But it has been explained over and over again that there is no filtering process at Lynn. The water is simply passed through some gravel, which acts as a strainer, not as a filter. Then it is said that the filters, which do not exist, have not been cleaned for many years. The strainers, which do exist, are cleaned every week by forcing water in the contrary direction—that is to say, upwards—so that the mud, &c., is lifted off the surface of the gravel and carried away by an overflow pipe. This straining process does not affect the impurity of the water, but only its appearance. To establish temporary filters of a really effective character would cost some £5000 and require six months' time. By that time the waterworks now in course of construction will, it is anticipated, be finished.

There can be no doubt but that the persistency with which the ratepayers of Lynn have so consistently rejected all proposals to provide a new water-supply was based on the desire to keep down the rates. At the same time, though this was the main motive, it could not be publicly proclaimed. To condemn a town to recurring epidemics so as to save the ratepayers' pockets does not constitute a very good electioneering cry. Other reasons had to be found and were found. In all fairness I am bound to cite these reasons in so far as I have been able to ascertain them. Of course, there is the old familiar argument of people who have lived a number of years under certain conditions, who imagine that they are none the worse and therefore object to expensive alterations. People who speak in this manner ignore those who have not continued to live, but have been brought prematurely to the grave, and they are blind to the dangers which the future may have in store for those who have survived. The argument also that what was endured in the past can be endured in the future has also the fundamental defect that it is not based on fact. The present and the future are not similar to the past. There were formerly fewer habitations on the banks of the Gaywood River, and the water above the intake was not so frequently polluted. Also, the number of inhabitants of Lynn was not so great; therefore, as less water was required a slower process of filtration could be applied. Now the only approach to a serious argument which the opponents of the water-supply schemes could adduce is that the river was kept cleaner and that the methods of filtration were more perfect. As to the condition of the river, doubtless it was somewhat cleaner. Perhaps it was more carefully watched. Assertions to this effect are frequently made, but it is as difficult to prove their accuracy as it is to deny them. In any case there are now more sources of contamination than in the times gone by. As for the processes of filtration, it may without hesitation be affirmed that what was done in the past and what is done now are in both instances absolutely inefficacious. The principal difference is that to-day no pretence at filtration is made. It is emphatically and distinctly stated that there are no filters; there are only some strainers just to keep the dead dogs, the big pieces of wood, leaves, and heavy particles of floating mud out of the water-pipes. This is not filtering, but merely a rough method of clarifying the water. It might well be urged that water ought not to be clarified, as this does not purify it, but only helps to deceive the consumer. If the water was delivered in its natural dirty condition it would not be more dangerous, and the population would more readily understand the necessity of boiling the water and of getting a better supply. Indeed, and in spite of the continued use of

the strainers to clarify the water, the opponents of the new water-supply scheme accuse the waterworks committee of striving to render the actual water-supply as foul as possible so as to compel the inhabitants of the town to approve of their scheme.

It is stated that formerly there were filter-beds which consisted of shingle, fine shingle, sand, and charcoal, all resting on some gratings The water came from underneath and was forced upwards. The filtering material was cleansed and renewed from time to time. This description is accurate except for the all-important fact that the word filter is applied. Then, as now, the water was not filtered, but merely strained. Even if the strainers were then capable of filtering their action would have been destroyed by the constant cleaning which is justifiable for a strainer, but renders a filter inefficacious. The Lynn ratepayers who ignorantly clamour for the cleaning of filters forget, or do not know, that when a filter is cleaned the water must be allowed to run to waste for several days till a film has been formed on the surface of the filter, and it is only when thus dirty that the filter arrests the passage of pathogenic bacteria. The process of upwards clarification was altered because it was found so inefficacious that eels got through and frequently blocked the delivery pipes. Needless to say that a so-called filter which allows eels to go through is scarcely likely to stop the passage of micro-organisms. Therefore, downward clarification was adopted and gravel only employed which was found sufficient for the purpose. That a filter is not intended is proved by the fact that these strainers are cleaned every week. By the present method eels do not get through so easily, but there are complaints about small fish and water-bugs. On one occasion the former borough surveyor, Mr. E. G. Mawbey, Assoc. Inst. C.E., did make an attempt to filter the water and placed in one of the two strainers all the necessary material. But these strainers were much too small for such a purpose, and the amount of water that came through was so limited that it was necessary to promptly remove the filtering material or there would have been a water famine in Lynn.

Finally, it is argued that if the strainers are too small to act as filters large filtering beds could be constructed. If London is satisfied to drink polluted river water, why should not Lynn do the same? The filtering process employed in London has proved satisfactory, why should not the same process be employed for Lynn? Those who thus argue forget that Londoners are not at all satisfied at having to drink river water, that there is always the fear of the filters getting out of order, and that had it been possible to obtain a sufficient water-supply direct from the chalk Londoners would certainly have been much better pleased. This has been done for many great capitals—Vienna, Paris, Rome, &c.; and the Lynn ratepayer who would urge the inhabitants of these cities to drink the water of the Danube, the Seine, or the Tiber would meet with a sorry reception. It is astonishing with what tenacity some of the Lynn ratepayers cling to the idea that the River Gaywood does not merit the aspersions which have been showered upon it by technicians. If, indeed, it is foul, this, they urge, is because it has not been cleaned, or, when cleaned, because the herbs that were cut out of it, have been left on the banks to rot, and the foulness of this decomposing vegetation has flowed back into the stream As a matter of fact, the authorities have not dared to clean the river for many years because they know that impurities are constantly flowing into the water, and they feared that an epidemic would result if the filth in the bed of the river was stirred up. Thus the adversaries of the new water scheme argue that if the river is foul it is all the fault of the waterworks committee, who should have cleaned out the river and shown more energy in proceeding against those persons or villages and hamlets who let their drainage flow into it. Then they also ask whether, after all, the pollution does not take place in the mains rather than in the river.

This latter question is of importance. The subsoil of Lynn is likely to be highly contaminated on account of its porous character, its damp condition, and because the streets, the courts, and alleys are very badly paved or not paved at all, and because there are still many privies in the town, probably as many as a thousand. Then the sewers are badly constructed, leak, and are water-locked twice a day. The pipes that convey the drinking-water through such a soil should be exceptionally sound and should be the subject of constant attention and watchful care. Certainly it will be argued that the pressure in water-pipes is from within. But on this point a great divergence of opinion exists. It is said that when there is a leak in the pipe, though the water from the inside flows outwards, still there may be, as it were, eddies by which some slight quantity of the water outside gets into the pipe. Also the pressure from within the pipes varies considerably, and sometimes the water is turned off altogether, then the foulness surrounding the pipe can easily penetrate. It would be a great misfortune, if when pure water is brought to the town that water became contaminated in passing through the streets. Certainly it would be prudent to examine the mains and branch pipes before introducing the new supply. It does seem like putting new wine into old bottles to bring down from the hills and the chalk through seven miles of new pipes a fresh and pure supply which will be poured under high pressure in the old pipes that are laying in the unstable and dirty subsoil of the streets of Lynn. If some accident should occur the opponents of the new water-supply would appear to have the argument on their side.

With regard to the typhoid fever epidemic of 1892, which should have constituted a sufficient warning to the inhabitants of Lynn, the counter argument is that this epidemic was greatly exaggerated and due to bad sanitation rather than to the water-supply First it is said we should bear in mind that the town was then suffering from a very severe epidemic of influenza Cases of intestinal influenza were magnified into typhoid fever and a scare was created so as to promote the new water-supply scheme. The intestinal influenza could be distinguished from typhoid fever by the absence of mortality. Nevertheless, it is not denied that ultimately true typhoid fever was manifest, but still doubts as to its being due to the contamination of the River Gaywood were loudly expressed in 1892 as they are again repeated to-day. There is one useful feature in this opposition to the water scheme. It has helped to draw attention to other sanitary defects in the town. In this respect Lynn is the very opposite to Maidstone. In the latter town no one could speak or think of anything else than the water-supply. To suggest that there might be other contributive causes was certain to evoke expressions of incredulity. In Lynn there are, on the contrary, so many persons anxious to defend the water-supply that some ingenuity is displayed in attributing the blame to all manner of other circumstances. And these other circumstances undoubtedly do exist For instance, the one medical practitioner in the town who has not joined his colleagues in their crusade against the water-supply pointed out to me a house where in 1892 he had attended a case of typhoid fever. At the back there was a privy on ground a yard higher than the patient's room. During the two preceding years complaints had been made concerning this privy, but no measure had been taken to abate the nuisance. On the same day the occupier of the house to which the privy belonged was also attacked by typhoid fever. Several other cases occurred in the immediate neighbourhood of this privy. Further, my informant insisted that the cases of typhoid fever were not evenly distributed over the town, but appeared in clusters as if surrounding some particular local source of infection. If the water had been the cause it is maintained that such clusters would not have occurred. This is an assertion I am not able to verify as I cannot find a spotted map of the 1892 epidemic. But there is such a map of the present epidemic, and though this map shows that the disease prevails all over the town it is not evenly distributed. For instance, there are more cases at the extreme north and south of the town. The central portion facing the River Ouse has the fewest number of cases, but there are here many business premises and the population is not so dense. It is south of the Mill fleet, one of the four brooks which divide the town, that the greatest number of cases have occurred. Giving off the Windsor-road a number of small streets have greatly suffered. This part of the town was flooded during the great storm of Sept. 29th last. The sewers overflowed and inundated the cellars or basements of these houses. When the water was drained away there remained a foul, thick mud, so that the inhabitants might have been contaminated, not only by the water they drank, but also by the sewage that was brought into their houses. Close by, in the London-road, the main sewer comes from opposite directions and meets at the head of the Windsor-road, and should here take a different course. During the storm, when the two currents met, the force of the shock was so great that the water burst out of the sewer and inundated all the

neighbourhood, therefore the opponents of the water scheme urge that it was the flood of sewage and not the drinking-water which caused the epidemic. But inasmuch as there are many cases of fever where there has been no flood, all that can be said is that the fouling of the houses rendered their inhabitants more susceptible.

All this disputation might easily have been set at rest by obtaining a bacteriological analysis of the water. For some unaccountable reason this has not been done. The adversaries of the new water-supply, therefore, have not failed to suggest that if the water was not analysed it was because the authorities knew full well that it was not polluted. The tenacity with which some people in Lynn still maintain that the water is not polluted, though they can see the filth flowing into it daily, is really quite amazing. This persistence becomes amusing when, as another argument in favour of the purity of the water, the inquiring visitor is further informed that Lynn is one of the highest rated towns in the kingdom. The inhabitants of Lynn do not seem to realise that the Freebridge Lynn rural sanitary district, which consists of thirty-three parishes spread over 69,299 acres and had a population of 12,366 at the 1891 census, is in a great measure drained into the Gaywood River. There are constantly cases of typhoid fever in this rural district, and at Grimstead a man died from typhoid fever last July. It will be remembered that one of the three springs that originate the Gaywood River starts from the Grimstead Cemetery. In looking up the records of the Grimstead Church it will be found that in the year 1832 there were 48 burials in this cemetery, of which 26 are entered as due to "blue oriental cholera." It has been argued that the water must be pure because there was no cholera at Lynn in 1849, 1853, and 1865 or 1866. As a matter of fact there were in those years two deaths, seven deaths, and one death respectively from cholera, but there was no epidemic; at the same time there were no cases of cholera on the river bank. In 1832, however, Lynn suffered more severely, but there were cases up the river above the water intake. Yet every precaution was taken. In November, 1831, a committee was formed, including the magistrates and medical men of the town. It was arranged that medicaments should be distributed gratuitously and a building set aside for the reception of cholera cases. The town was divided into districts and committee men visited all the houses to remedy insanitary conditions and report cases of diarrhœa. In spite of all these precautions the cholera invaded the town the following year; but the first death occurred at Grimstead, not at Lynn. It occurred on June 29th, 1832, and the last death was on July 29th, whilst the first death recorded at Lynn was on July 2nd, and the last on Aug. 22nd. Then at Pot Row, which drains into the Gaywood River, there were 26 deaths from cholera in fourteen days. This is a water-logged village beyond the village of Gaywood. There is a sandy subsoil with water four feet below the surface. Every well in the district can be easily polluted, and the inhabitants in their turn pollute the Gaywood River. In the Freebridge rural sanitary district there have been 17 cases of typhoid fever since the month of October, and there was a case at Gaywood before the present epidemic broke out at Lynn. The patient lived within a hundred yards of the river, where there is an old privy attached to the house, and its contents were put on the garden between the house and the river. Last year there were eight cases of typhoid fever in this same rural sanitary district. Thus it will be seen that the Gaywood River, which supplies the drinking water of Lynn, has ample opportunities of being contaminated.

(To be continued.)

THE EPIDEMIC OF TYPHOID FEVER AT CLIFTON.

IT is a very long time since Clifton has been visited by such a severe epidemic of typhoid fever as the one that is now progressing, if, indeed, it ever has; and never, we believe, have the authorities been better able to recognise the seriousness of the outbreak or deal with it in a more energetic manner than on the present occasion. Though there had been cases of typhoid fever notified in Bristol during August, September, and October, they were not more in number than the average, and no suspicion was entertained that an outbreak like the present was likely to take place; in fact, during the week ending Oct. 9th no cases were notified, while only 6 were reported in the week ending the 16th, 3 of these cases being at Clifton. During the next week (ending Oct. 23rd) 18 cases were notified, 16 of these being at Clifton. It was during this week that the blood of some patients suffering from certain indefinite symptoms was sent to the medical officer of health for examination by Widal's test, and in his reply he stated that he believed the disease to be typhoid fever. Within a very short time a considerable number of specimens were sent to him, all coming from cases which presented some difficulty in diagnosis, and in a large majority Widal's phenomenon was observed. The accuracy of the diagnosis was subsequently fully confirmed by the clinical developments of the cases and by a post-mortem examination made on a case which, unfortunately, proved fatal. A large number of notification returns followed, so that in the week ending Oct. 30th 109 cases were reported in Bristol, 100 coming from Clifton, and it is certain that not only have some cases not yet been notified, but that a few mild cases have recovered and so escaped being reported. The notification returns, however, do not show accurately the outbreak of the epidemic in point of time, and by the courtesy of the medical officer of health we are able to give the actual onset of the attacks as reported on the notification returns. The following figures are for the whole of Bristol for the month of October:—Oct. 1st to 3rd, 4 cases: Oct. 3rd to 9th. 15 cases; Oct. 10th to 16th, 38 cases; Oct. 17th to 23rd, 51 cases; Oct. 24th to 30th, 21 cases.

This accounts for 129 cases, in addition to which there are 12 doubtful and obscure cases. As the returns came in and were examined it became evident that only a very small area of Clifton was affected, which fact pointed so clearly to a contaminated milk-supply that the medical officer of health at once endeavoured to discover the farm and the distributor supplying the infected houses, with the following results.

A certain milk distributor (A) in the employ of a dairy company supplied milk from a farm situated near a village a short distance out of Bristol. In this man's round he supplied eighteen houses in which typhoid fever appeared. Previously to Sept. 30th he had taken milk to a lower part of Clifton, and it was in this round that the earliest cases occurred. After that date he supplied milk in the upper part of Clifton, and left the milk at numerous private houses, at a boarding-house at Clifton College (S), and at the house where the bachelor masters live. On Oct. 18th he began to supply another boarding-house at the college (M), and it is in this house that the most recent cases have appeared. A visit to the dairy farm showed a state of things which, to say the least, is scandalous. A stream runs through the village and receives all the sewage of the inhabitants, and after passing the farm runs into the Avon. On the farm was a pump about five yards from the stream, supplying water identical in constituents with that of the stream, and consequently highly contaminated with sewage and swarming with micro-organisms of great variety. This water, which the farmer professed to boil, was used for all dairy purposes, and was quite sufficient to account for the infected milk-supply.

The supply from A did not, however, account for the outbreak in at least eight other houses, but on pressure being brought to bear on another distributor (B) he admitted that he supplemented his supply with milk from A, although this was contrary to regulations. This source of infection was suspected because both A and B entered Clifton by the same route—i.e., over the suspension bridge—but it certainly was the duty of the district council to see that the drainage was conveyed away in such a manner as not to pollute streams which run near dairy farms.

As might be expected, a few cases have occurred in houses not supplied by A or B, but it is quite possible—in fact, it is known in some instances—that the infection was taken at tea parties and other special entertainments, and that occasionally supplies were taken from the infected milk. The disease has largely attacked young people and servants, though adults have not escaped. In the boarding-house at the college (S) 26 cases have occurred and in the other boarding-house (M) 5; in fact, Clifton College has been severely attacked, several masters, a master's wife, boys, and servants suffering from the disease. We are glad, however, to hear that no new cases have been reported recently. The authorities have been put to great anxiety and have taken every measure in their power to prevent the spread

of the epidemic, and it is satisfactory to learn that the patients are progressing favourably.

In such an epidemic there is naturally a variety in the severity of the disease; but in most cases the early symptoms were by no means characteristic, the temperature was very erratic, and diarrhœa was often conspicuous by its absence. Testimony must be borne to the great assistance which practitioners have received from the medical officer of health, who on the first intimation that typhoid fever had occurred and that obscure cases of continued fever were prevalent was prepared to examine the blood by Widal's reaction. The blood of over eighty patients has been examined in the laboratory of the medical department of the sanitary authorities, and the reports have in many instances materially assisted in correctly diagnosing obscure cases. We are informed that the primary case—i.e., the one that infected the stream—has not been discovered, but that as soon as the source of infection was found to be the milk from A's farm the supply was stopped.

The notifications during the week ending Nov. 6th were 67, but a large number of these were what may be described as old ones—that is, cases that should have been reported in the previous weeks. The corrected table of onsets is as follows:—

	Cases.	Notifications.
Oct. 1st and 2nd	6	0
Week ending Oct. 9th	23	0
,, ,, ,, 16th	46	6
,, ,, ,, 23rd	68	18
,, ,, ,, 30th	50	109
,, ,, Nov. 6th	2	67
Totals.....	195	200

There are several cases which are known to exist that have not yet been notified. The latest notification returns are up to Nov. 8th, on which day 3 were reported, the same number as on the two preceding days. Twelve cases have proved fatal. The medical officer of health further says that at each point of the inquiry confirmatory evidence as to the original suspected milk has been forthcoming, and it is now quite established that this has been the actual cause of the Clifton outbreak, and the only cause.

THE RINDERPEST IN SOUTH AFRICA.

(FROM A CORRESPONDENT.)

IN spite of all the precautions taken by the Cape Government during the last twelve months, and the indefatigable efforts of the Minister of Agriculture and the veterinary staff under Mr. Hutcheon to check its progress, rinderpest is steadily advancing in the Cape Colony, and almost each day brings news of fresh centres of infection. It is practically certain that the disease will eventually spread through the whole of the colony. Those who have passed through districts which rinderpest has ravaged unchecked are never likely to think lightly of its appalling effects or to be indifferent in their endeavours to carry out any measures which promise a fair amount of success in diminishing its results.

An Object Lesson from the Protectorate.

Some idea of what a terrible scourge this disease is may be gathered from a comparison of the condition of the Protectorate in the beginning of 1896 with that six months later. In January of that year the country was teeming with cattle, and hundreds of ox transport wagons were to be seen toiling along the road between Mafeking and Bulawayo, a distance of over 500 miles, carrying loads at the rate of about 14*s.* per cwt. In July the country did not contain sufficient cattle for even ploughing purposes, and transport had risen to £6 per cwt. over the same distance, and was almost entirely dependent on mules, donkeys, and horses, and the price of transport oxen had risen from about £6 to as high in some cases as £60 for salted cattle. The veld along the road was strewn with putrefying carcasses of dead oxen, and in many parts littered with the contents of stranded wagons—hundreds of wagons standing useless, exposed to the elements and the tender mercy of any passer-by, with no animals to drag them even to the nearest wayside station.

The Origin of the Epidemic.

The plague, according to Captain Lugard in his work on the "Rise of Our East African Empire," appears to have started on the east coast, opposite Aden, and to have spread inland about the end of 1889, probably having been brought there through the medium of infected cattle imported from India, in some portions of the north of which country rinderpest appears to be endemic. It spread through Central Africa till, in March, 1896, it appeared in Bulawayo, whence it was carried rapidly along the southern transport roads to Tuli, on the northern borders of the Transvaal, and to Mafeking, on the north-western border of the colony, reaching the latter place about the middle of April, having travelled the distance of over 500 miles in less than six weeks. The disease soon passed the Limpopo River, on the north of the Transvaal, and steadily continued its deadly march through the Transvaal, and appears now to have traversed the whole of that State from the Limpopo on the north and west to Natal and Swaziland on the east, and has crossed the Vaal River in the Free State, the whole of which State is now suffering from its ravages.

The Story of the Fences.

As soon as the plague reached Mafeking in April, 1896, every effort was made by the authorities to stay the spread of the disease. The officials of the Agricultural Department and the whole available veterinary staff concentrated their efforts in endeavours to confine it, if possible, to that portion of the country. Herds of cattle were shot and compensation paid to the owners, two lines of fences were erected, and cordons of police placed at various points to prevent the movements of infected cattle into non-infected areas. But in spite of all precautions the infection was spread, chiefly by cattle from infected areas in the Transvaal and Free State crossing the border behind the line of defence, and on Oct. 3rd, 1896, it appeared in the Kimberley district and gradually spread through Griqualand West.

The Stand at the Orange River.

A last determined effort to check the inroads of the disease was made at the Orange River. Here a barbed wire fence was erected 1000 yards on the southern side of the river, extending from the south-west boundary of Bechuanaland right along the border of the colony and Free State as far as the Basutoland border, thence along the boundary of Basutoland and the colony as far as the Natal border, and from this point along the Natal and colony border to the coast. Police were placed along the whole line, and all communication between the infected areas on the north of this line and the non-infected areas to the south or colonial side carefully guarded for a distance of about 980 miles. The precautions succeeded for about four months in keeping the plague out of Cape Colony proper, but on March 24th, 1897, an outbreak of the disease occurred in the Herschel district south of the line of defence. The way in which this occurred is interesting as showing how extremely difficult it is to exclude all sources of infection in a country like South Africa. The leader of a transport waggon travelling on the main road south of Aliwal North on the colonial side of the Orange River fence picked up an old sack containing among other things some dried meat and a pair of trousers stained with blood, probably from contact with the meat. The boy put on the trousers without washing them, and the result was that his two leading oxen became sick with rinderpest a few days afterwards and spread the infection to other cattle. The contents of the sack indicated that the Kafir to whom the sack belonged had been working in mines, probably in the Transvaal; and that this sack was the source of infection seems sufficiently probable from the fact that the transport oxen had not been within many miles of the infected area, from which they were separated by the Orange River, at this time in flood. The hope that the disease would be kept out of the colony by the means described had at last to be reluctantly abandoned, and it became evident that all further idea of confining the plague by means of rivers, fences, or cordons of police was futile. The various districts were then placed under the control of committees, who are now endeavouring with varied success to confine as much as possible the spread of the disease. These measures to some extent retarded its progress, but the disease having once succeeded in passing the more efficient barriers that were opposed to its progress, such as the Orange River and its fence, it could no longer be expected that the less efficient means at disposal would long succeed in preventing its advance into the rest of the colony. During the end of 1896 the Cape Government, seeing the appalling spread of the disease in spite of their precautions, and the

uselessness of all known remedies, decided to obtain the assistance of Professor Koch, the noted German bacteriologist, and were fortunate in securing his services for investigating the disease and trying to discover some method of combating its frightful results. Thanks to the brilliant discoveries of this investigator, means were placed at the disposal of the Government which promised to a very great extent to reduce to reasonable limits what at one time appeared likely to become a national calamity as far as this colony was concerned. Before, however, proceeding to discuss what these measures were it will be well to describe the disease itself and the symptoms to which it gives rise. The following description of rinderpest is taken from the report by the colonial veterinary surgeon (Mr. D. Hutcheon).

The Rinderpest.

Rinderpest is a specific, malignant, and highly contagious fever, characterised by acute inflammation of the mucous surfaces. It is spread only by communication, directly or indirectly, from sick to healthy animals. It is essentially a bovine disease, though it may be communicated to other ruminants, especially the buffalo and some of the antelopes in South Africa, particularly the koodoo, eland, bushbuck, and duiker; sheep and goats are also affected by the disease, but as a rule suffer very little beyond a slight rise of temperature, although occasionally they die from it. It is characterised by a period of incubation of from three to ten days, and its most prominent symptoms are a rise of temperature and a low typhoid form of fever, which is ushered in by trembling or shivering and twitching of the muscles behind the shoulders and flanks. There is a discharge from the eyes and nose, at first watery, but soon becoming mucous. There is constipation at first, which in a day or two is followed by diarrhœa. The mucous membranes of the eyes, mouth, nostrils, and vagina of the cow are red and inflamed-looking. There is congestion of the skin, and in numerous cases an eruption of pustules on it.

The First Symptom.

The first symptom of rinderpest is a rise of temperature which in inoculated animals generally occurs about the fourth day, often a little earlier. In those animals that contract the disease by infection in the ordinary way the period of incubation is probably longer. The temperature rises from normal (102° F.) to from 104° to 108° or even higher. At the first characteristic sudden rise of temperature there are no visible symptoms indicating that the animal is sick except that close observation will detect that it does not eat so vigorously and appears less lively than usual. By the fifth day the animal will look a little dull, the coat will appear rough, and the appetite will be visibly affected, although it may still feed a little. A rough but comparatively mild cough is very often one of the first indications. The external symptoms appear about the sixth day, when the ears are observed to droop when the animal is standing quiet and undisturbed. A little watery discharge begins to flow from the eyes, turning to thick mucus later, and the eyes appear red and inflamed. There is a slight dribbling of saliva from the mouth and a little mucous discharge from the nostrils. These symptoms gradually become intensified as the disease advances, and the animal stands with its head hanging down and its ears drawn backwards and drooping. The coat is rough, and a twitching and trembling of the muscles behind the shoulders and about the flanks and hindquarters will be observed. The discharge from the eyes, nostrils, and mouth becomes increased; that from the nostrils is sometimes discoloured with blood; and the muzzle presents an excoriated appearance. The mucous membrane lining the mouth shows a bright salmon colour, and a few ulcers may be visible about the dental pad and on the under surface of the tongue; the bran-like eruption on the palate which is described in most works on the subject is rarely met with; the breath has invariably a very fœtid odour. Diarrhœa commences about the seventh or eighth day after infection, or from about the second to the third day after the outward signs become visible. The colour of the fæces may be at first natural, but they generally become of a dirty brownish-yellow colour, as if mixed with bile and mucus, and contain little or no fæcal matter. In some instances the fluid fæces will be discharged involuntarily, soiling the tail and hind legs, the anus being relaxed and inflamed, in some cases even ulcerated; in other cases there is straining and great uneasiness, the animal moving its hind legs and whisking its tail as if suffering abdominal pain. The prostration of strength in serous cases is very marked. The animal walks with a staggering gait when made to move, and when standing its back is arched, with the hind legs drawn under the body. If left at liberty in the open undisturbed the animal seeks the shelter of the trees, where it will lie persistently. The thirst is very great, and when allowed to get to the water the animal will stand and sip away continuously and very frequently die in the water. In many cases the breathing becomes quick and laboured, accompanied by a moaning grunt. In milch cows the flow of milk begins to fall off immediately. The pulse is much increased, and as the disease advances becomes very quick and feeble. Some hours before death the temperature suddenly falls below normal. The extremities and surface of the body become cold and the animal dies in a semi-comatose condition. Death takes place from two to six, or even ten, days after the visible symptoms appear. In many cases after apparent recovery the animal suffers a relapse and dies.

The Diagnosis.

Although typical cases of rinderpest are comparatively easy to diagnose after the external symptoms have become fully developed, still there are a great many other cases in which the symptoms are not very clearly defined, especially in the early stages. The temperature is usually an excellent guide, but even that cannot always be relied upon, as we get a high temperature in other diseases involving the digestive organs. For instance, there are many cases in which the running from the eyes is not very marked and the discharge from the nostrils barely discernible. There is invariably a flow more or less of saliva about the mouth, but we get that associated with congestion of the liver and other derangements of the digestive organs, while a violent diarrhœa mixed with blood and mucus is often the accompaniment of inflammation of the bowels caused by the animal eating certain irritating bulbous plants. In such cases there will frequently be a pinkish colour of the mucous membrane lining the mouth, with the fœtid breath so common in rinderpest. Again, we meet with a great many cases of catarrh which simulate rinderpest very closely except in the colour and character of the fæces. In all outbreaks, in which only one or two animals are affected, it is necessary to make a post mortem examination, and even then, unless the case is well advanced, the typical appearances presented by the fourth stomach and bowels may not be sufficiently developed to justify one in giving a decided opinion. There is also a large number of very mild cases in which the characteristic symptoms of the disease never became developed, and if it were not that rinderpest is in the herd, or near it, one would not suspect them of having the disease by external examination only.

The Post-mortem Appearances.

The body is generally much emaciated and the orifices are soiled with a dirty discharge, and the carcass exhales a very fœtid odour. The principal and pathognomonic lesions of rinderpest have their seat in the mucous membranes of the digestive passages, the respiratory organs, and the urinary apparatus. The mucous lining of the mouth is congested and covered over with a slimy mucus. It presents a bright salmon colour, but if the beast has been killed and bled before examination this bright pinkish colour disappears. The epithelium is frequently found detached in places, leaving small ulcerated-looking spots. These are met with most frequently on the under surface of the tongue and on the dental pad. The mucous membrane of the fauces and pharynx is the seat of catarrhal inflammation and is covered with a thickened mucous, but sometimes purulent, discharge. The nasal mucous membrane is likewise the seat of catarrhal inflammation, its surface being covered with a muco-purulent exudation, and towards the openings of the nostrils small ulcers are frequently met with. There is very little change to be observed in either the trachea or œsophagus. Slight catarrhal inflammation is sometimes met with in the bronchial tubes with collapse of some of the smaller lobules. Pulmonary emphysema may also be present. The changes in the lungs are neither constant nor pathognomonic, and are secondary as a rule. There are sometimes ecchymotic patches on the endocardium of the heart, and similar spots are met with occasionally on the pericardium, with a little fluid in the pericardial sac. On opening the abdomen the peritoneum is congested and frequently spotted, and there is a variable quantity of yellow serous fluid in the peritoneal cavity. It is comparatively rare to find any pathological changes in the first and second stomachs

although a little serous infiltration is sometimes met with under the epithelial lining. The third stomach is generally hard, and the food between the leaves dry and caked. But very frequently, more especially if the sick animal has been allowed to drink large quantities of water, the contents of the stomach are found quite fluid. It is in the fourth stomach and the intestines where the most marked and characteristic changes are met with. The mucous membrane of this stomach is the seat of acute catarrhal inflammation, the submucous tissue is swollen and infiltrated with a serous effusion, especially the rugæ or folds. The mucous membrane is also swollen and its epithelium detached in patches of various sizes, leaving ulcerated sores, more particularly near the pylorus, where these ulcers present the appearance of dark eroded sores with the yellow degenerated tissue remaining in their centres. In the small intestines is found a muco-purulent greyish yellow exudation, in some cases covering innumerable small spots scattered over the mucous membrane of the bowels. In other cases this exudation is found covering almost the whole of the mucous membrane. In more severe cases this presents the appearance of a thick, membrane-like exudation, which in parts forms a complete cast of the bowel. In such cases the epithelium is thickened, softened, and is found detached over small patches throughout the small intestines, leaving the membrane red and granular-looking. Peyer's patches are generally swollen and denuded of epithelium. The changes in the large intestines are not usually so well marked or so uniform. In many cases the inflammation is more in patches, and in the rectum the mucous membrane presents a blood-streaked appearance. The epithelium is swollen and covered over with a muco-purulent exudation, while there is more or less infiltration of the submucous tissue. In many severe cases, however, the large intestines are just as seriously affected as the small with numerous small patches of desquamated epithelium. It is a very curious fact, also, that many of the cases which manifest the most severe external symptoms do not show the most characteristic post-mortem lesions. The liver very often appears congested, and presents a yellowish colour of various tints. In many of the cases, however, the liver is perfectly normal in character and appearance and the bile apparently healthy. The mucous lining of the gall-bladder is sometimes inflamed, especially about the base of the sac, and the bile is thick and curdy looking. The mucous lining of the urinary bladder is sometimes affected also in patches with a little submucous infiltration, and similar appearances present themselves in the vagina of the female. It is not necessary to go minutely into all the post-mortem changes which may be observed in individual cases. The most marked and characteristic post-mortem appearances are those seen in the mouth and upper-air passages and in the fourth stomach and intestines.

The Treatment.

The treatment of rinderpest up to the time of Dr. Koch's discoveries had not been followed by any satisfactory results, although an immense number of remedies had been tried. Mild laxatives, such as two or three ounces of sulphur in two quarts of gruel during the early stage, followed by catechu and opium when the diarrhœa stage is reached, and the keeping of the animals as quiet as possible, sheltered from the sun, and on a limited supply of water, with a little nourishing gruel to drink, is the form of treatment which probably gives a higher percentage of recoveries than any other.

The Mortality.

The various rates of mortality which have occurred appear to depend upon the degree of virulence of the outbreaks. There can be little doubt that during the hot summer weather the disease in many instances assumes a milder form than in the colder winter months. During the progress of the disease through the Protectorate and in the Mafeking district 5 per cent. of recoveries was considered a very high average during the winter months. About the beginning of September, however, when the weather became warmer, 10 and 15 per cent. of recoveries were reported. There was also a great difference between the recoveries on individual farms, varying from 2 per cent. to 10, and even 20, per cent. in exceptional cases. Similar results as regards the effect of dry, warm atmosphere have been recorded in India.

The Modes by which Rinderpest is Spread.

The principal modes by which the disease is spread are: (1) immediate contact of healthy with affected cattle; (2) healthy cattle grazing on the veld where infected ones have recently been or drinking at stagnant pools already poisoned by the secretions and excretions of affected cattle; (3) the conveyance of the infection by wild animals susceptible to the disease into healthy districts; (4) the conveyance of the poison by means of soiled clothes and hands of human beings, and also by animals not susceptible to the disease, who have been in contact with diseased animals or their excretions or secretions; and (5) portions of diseased meat.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Clinical Society.

THE Manchester Clinical Society was established several years ago, and its career shows that it has supplied a want. It is not antagonistic to the Medical Society of Manchester, which, though no longer youthful, still retains the vigour and energy of its earliest prime, but it serves as a useful supplement and possibly as a gentle stimulus to the older institution. The population of Manchester, Salford, and the district round is considerably over a million and implies the presence of a proportionate number of our own profession. It is therefore evident that abundant scope exists for two societies, and that with only one much interesting clinical work must go unnoticed for want of opportunity to bring it forward. The meetings are held in a large room at the Victoria Hotel, where also another room is permanently retained for reading and business purposes. The annual subscription has hitherto been a guinea, which has entitled a member not only to attend the meetings, but also to take out books, an arrangement having been made with Lewis for a large and constant supply. At the recent annual meeting considerable changes were made in the rules and some novel features introduced. The annual subscription is reduced to half a guinea, not to include the use of the lending library. Those who wish to have books from Lewis's Library will pay an extra fee, which is not likely to be more than 7*s.* 6*d.* per member. Tea, coffee, or cocoa may be obtained during the meetings, at which also smoking is to be allowed. It will be interesting to watch the working of this arrangement. Some may doubt the wisdom of these concessions to human weakness, but the busy practitioner just able to "drop in" to a meeting may often find it a convenience and comfort to obtain simultaneously pleasant and, it may be, much-needed refreshment for body and mind, while the soothing influence of tobacco may help to soften down sharp differences of opinion or personal feeling, while its smoke wreaths with their subtle cloud may perhaps veil asperities of manner. Twice a year visitors will be invited to open discussions on given subjects, to facilitate which short abstracts of the papers to be read will be distributed among the members four days before the meetings. After eight years of devoted work Dr. Hill Griffith resigns the honorary secretaryship and is succeeded by Dr. Helme.

Rejection of the Culvert Scheme.

The counting of the voting-papers issued to owners and ratepayers of Manchester in connexion with the resolution of the City Council to seek powers for the provision of a culvert to convey the Manchester sewage effluent to the tidal waters of the Mersey took place on the 30th ult. The result was as follows: against the resolution of the council, 49,069; in favour of the resolution, 20,528; majority against, 28,541—a very decided vote, in consequence of which members of the rivers committee of the corporation have resigned. They may, however, be re-elected. The position is a difficult one for the Council, but it may lead to a more earnest endeavour to solve the problem of artificial filtration. Various schemes will of course be suggested, one of which has indeed been already put forth for a gigantic culvert to go out to sea at the mouth of the River Dee. It is to be big enough to carry off the filthy water from all the towns and villages in its course, and if carried out will no doubt increase the attractions of several favourite resorts, such as West Kirby, Hoylake, and New Brighton. This scheme emanates from the fertile brain of Mr. Marshall Stevens, well known in connexion with the Ship Canal and the Trafford Park Syndicate. But, alas, for any efforts at

originality nowadays. One writer in the *Manchester Guardian* says that perhaps Mr. Stevens is not aware that he "proposed the same scheme over twelve months ago," and another seems to imagine that with the aid, in some way or other, of all this sewage the Dee may be deepened and ships floated up to Chester. The march of severe science does not seem to have crippled imagination.

The Cleansing Department.

It is difficult to realise the enormous quantity of refuse that has to be dealt with in a large community. From the report of the cleansing committee of the City Council it appears that during the year ending March 31st the quantity collected and disposed of amounted to 354,364 tons, more than 1000 tons for every working day; while the area of street surface swept and cleansed was 556,472,760 square yards. A considerable part of this refuse is cremated and mortar is manufactured from the clinkers from the destructors and lime ashes. If not utilised they would have to be carted away at considerable cost, whereas there was a profit on the mortar-making of over £1678. During the year 49,342 tons of material were sent to Carrington, but in future a great part of such refuse will be sent to Chat Moss. The farm at Carrington consists of about 400 acres, and the amount charged as rent during the year was £933 1*s.*; all other expenses in connexion with the farm have been debited to the farm account and credit has been given for all revenue derived purely from the farm. It is satisfactory to note that a profit has been made, but as the amount is not stated it may be but a modest one. Next year it is expected that about £4500 will be received in rents from the estate, and the year's expenses correspondingly reduced. At present the outgoings of the committee far exceed the receipts. During the year £99,334 were paid in wages alone, while the sale of concentrated manure, night-soil, street-sweepings, mortar, &c., has brought in £41,080.

Nov. 9th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

John Redhead Wing of the Ingham Infirmary, South Shields.

ON Nov. 6th the foundation-stone of this extension was laid by the Earl of Durham. The wing will provide for an addition of forty-eight beds, which are to be used for the treatment of medical cases and the wing is added in memory of the late Alderman Redhead, who was a warm supporter of the charity. The new wing will necessitate an increased annual expenditure of £1000, but it is anticipated that in so rich a community as South Shields so popular an institution as the Ingham Infirmary will have no difficulty whatever in raising this amount.

Increase of a Poor-law Medical Officer's Salary.

The Tynemouth board of guardians at their meeting on Nov. 4th increased the salary of their medical officer, Dr. E. Brumwell, from £110 to £160 per annum. Dr. Brumwell has filled the post of medical officer to the Tynemouth Workhouse for twelve years, and is to be congratulated upon this appreciation of his services.

Site for the New Infirmary, Newcastle-upon-Tyne.

This question has advanced another, and it is to be hoped has reached its final stage. The corporation, influenced by Mr. John Hall's gift of £100,000, has given to the governor of the Royal Infirmary ten acres of ground on the cattle leazes. It is a magnificent area, and is situated where the building committee and the governor of the infirmary asked the corporation to give them a site. The consent of Parliament has to be obtained in order that the land may be used for the purpose of building. Seeing that the freemen, the corporation, and the infirmary authorities are at one, it is to be hoped that no opposition will be raised before a Parliamentary committee to the transfer of this land. It is now nearly 150 years ago that the present infirmary was founded and built upon land given by the corporation for the purpose. It speaks well for the popularity of the institution that the present corporation should see its way to better the example of its predecessor 150 years ago.

Nov. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Morison Lectures.

ON Wednesday and Friday of last week the second and third of the Morison Lectures were delivered at the Royal College of Physicians of Edinburgh by Dr. Alexander Morison. The second and part of the third lecture were again devoted to an erudite *résumé* of investigations into the anatomy of the nervous mechanism of the viscera. The greater part of the third lecture was, however, devoted to the physiology of the subject. This gave the lecturer more freedom and allowed both his reasoning and his imaginative faculties fuller scope, the result being that the lecture was much more interesting to listen to and made many of those who heard it wish that they had not to wait for twelve months to have the clinical aspects of the questions discussed submitted to them.

The Medico-Chirurgical Society, Edinburgh.

The first meeting of this society for the winter was held on Nov. 3rd in the rooms of the Royal Scottish Society of Arts. The President, Dr. Argyll Robertson, occupied the chair, and there was a good attendance of members.

Glasgow Obstetrical and Gynæcological Society.

The first meeting of this society was held on Oct. 27th, Mr. Alexander Miller presiding. The following office-bearers were elected for the session: Honorary President, Professor A. R. Simpson; President, Dr. Malcolm Black; Vice presidents, Mr. Miller and Dr. Oliphant; treasurer, Dr. Lindsay; secretary, Dr. Jardine; reporting secretary, Dr. Russell; pathologist, Dr. Kerr; members of council, Dr. Reid, Dr. Alice MacLaren, Mr. Richmond, Dr. Balfour Marshall, Dr Edgar, and Dr. Thomson. Dr. Jardine showed skiagrams and a pen-and-ink sketch of a Deformity of the Forearm and Hand. Dr. J. K. Kelly showed (1) the Pelvic Organs and Sections of Lung from a case of Deciduoma Malignum; (2) a Left Ovarian Cyst growing into the Ligamentum Latum and a Right Ovarian Cyst growing free; and (3) a Left Tubo-ovarian Cyst which formed a tumour reaching above the umbilicus and a smaller Right Ovarian Cyst. Dr. Edgar showed—(1) Two Ovaries removed by Vaginal Section; and (2) Ovary and Tube removed by Abdominal Section. A discussion afterwards took place on Extra-uterine Pregnancy based on a paper read by Dr. Edgar on April 28th. Dr. W. L. Reid, Dr. J. K. Kelly, Dr. Stark, and Professor Murdoch Cameron took part in the discussion.

The Aboyne Fever Hospital Difficulty.

By a majority of 8 to 4 the Deeside District Committee have decided to refuse an offer by Sir W. Cunliffe Brooks, Bart., of Glen Tana, to relieve the committee of the fee duty connected with the hospital in course of erection, to defray the cost of building already incurred, and to pay the sum of £1000 on condition that the committee keep away from Aboyne water area. The majority held that this offer did not comply with the conditions laid down by the committee and the Local Government Board. The hospital is ready to be roofed in, but some people believe a guarantee in the required form may yet be given.

University of Aberdeen.

Professor Johnston, whose case in reference to Biblical Criticism was mentioned in the leading columns of THE LANCET, ignoring the decision of the Privy Council and the appointment by the University Court of Very Rev. Dr. Glong as lecturer on the subject mentioned, proposed to give a course of lectures of his own as though nothing had occurred to disturb his position. Professor Johnston, at the end of last month, accordingly endeavoured to deliver an opening lecture in one of the class-rooms in Marischal College, but owing to the uproarious conduct of the medical and other students the attempt was an abortive one. Since then Professor Johnston has attended at King's College with the object of lecturing, but no divinity student has put in an appearance, and Professor Johnston has been left to do nothing but converse for a short time with the amused pressman or two who went in search of a "scene" or anything to make good "copy" of.—The Aberdeen University Court has resolved by a majority to disclaim any idea of repudiating its obligations as to the erection of a new Greyfriars Church in connexion with the extension of the university buildings, and has requested a conference with

the town council of Aberdeen on the subject. In consequence of this decision Principal Sir W. D. Geddes has resigned his position as a member and chairman of the Sites and Plans Committee.—A bust of the late Dr. C. Mitchell, Jesmond Towers, is to be placed in the Mitchell Hall, being a gift from his son.

Professor Macewen and the Western Infirmary, Glasgow.

A most important contribution has been made to this controversy in the form of a statement issued by Dr. J. B. Russell, one of the representatives of the Faculty of Physicians and Surgeons on the infirmary board of managers. Dr. Russell does not allude to particular incidents of the dispute, nor does he concern himself with its merely personal aspects. Indeed, his purpose is rather to raise the whole question of the position which the infirmary occupies towards the university professors. With this in view he describes the effect of the agreement under which the infirmary is bound to make "reasonable provision for professors of the university engaged in clinical instruction," and shows that the minimum effect of this is to transfer the patronage of two physicianships and two surgeonships from the managers to the corresponding university chairs. He admits the necessity of some arrangement with the university, but insists upon certain drawbacks inherent in the present plan. By it the available patronage of the managers is seriously lessened, the visiting staff is divided into university and non-university clinical teachers, with the "assumption always existent in the university mind that the university physicians and surgeons can do something in the way of clinical teaching that the other men cannot do," and as the professors are appointed to their chairs *ad vitam aut culpam* the managers are unable to put a time limit to their appointments at the infirmary. These conditions necessarily mean a serious limitation of the power of the managers to secure promotion for the younger members of their staff, and Dr. Russell is evidently opposed to further encroachments of the university on the patronage of the managers. He recalls an attempt made many years ago by the professors of clinical medicine and clinical surgery "to absorb the entire function of clinical teaching for university purposes," and the defeat of this by the joint action of their colleagues and the infirmary board; he also alludes to the attempt of the university to monopolise the gynæcological clinique for the professor of midwifery at the expense of a gentleman older in the service of the infirmary; and he states that the recent appointment of the professor of materia medica and therapeutics to the charge of beds was urged upon the managers by a "strong letter from the principal." Against the allotment of beds "for the elucidation of materia medica and therapeutics" Dr. Russell enters a strong protest. He regards such a decision as "an insult to the existing staff; it put forward a most painful suggestion to the minds of subscribers, and it virtually alienated for ever from the patronage of the managers a physicianship and two wards." It is in the light of these occurrences, Dr. Russell contends, that the attempt of the senate to secure a third ward for the professor of surgery must be viewed. As he phrases it, the senate have overdrawn their account. If the professors of midwifery and therapeutics are to be provided with wards it must be in part at least at the expense of the professor of surgery. In dealing with the question of operating theatres Dr. Russell describes in a somewhat satirical tone the extreme demands made on "structure and administration" by a perfect system of aseptic surgery. Pushed to their extreme limit the infirmary would become a "mere federation of cliniques designated and denominated by autonomous physicians and surgeons." The demands which are being made on the managers are, he considers, in some respects beyond the possibilities at their disposal. Dr. Russell's statement has excited much interest, and whilst the feeling in favour of granting to Professor Macewen every facility for carrying on the work of which Glasgow is so justly proud remains unchanged, there is much sympathy with Dr. Russell's opposition to the attempts of the university to still further invade the patronage of the infirmary managers. His contention that a place on the visiting staff ought to be within the possible attainment of those who, in the dispensary and other subordinate positions, do the drudgery of the institution is recognised as sound policy. If such a result is not possible it is manifest that the infirmary will cease to attract to its staff those who are willing by years of subordinate service to qualify themselves for clinical command and instruction. To proclaim to the junior staff that a record of many years of hard and unremunerated work forms no effective argument against the pretensions of an outsider who happens to be a university professor is a proceeding very unlikely indeed to ensure an abundant supply of capable candidates anxious to enter on the service of the hospital. That university professors are necessarily superior to all other candidates is, of course, a pious belief of their "sisters and their cousins and their aunts," but it scarcely commands the unqualified assent of a more virile constituency. The only other piece of news in connexion with the dispute is the appointment of the Rev. Professor Hastie and Professor Adamson to represent the senate on the infirmary board. These gentlemen replace Professor Cleland and Professor Moir, who presumably in the judgment of the senate failed to urge the university claims with sufficient vigour.

Medical Appointments.

Mr. Peter Paterson, M.B., C.M. Glasg., has been appointed one of the surgeons to the dispensary of the Glasgow Royal Infirmary; his promotion makes a vacancy in the extra-dispensing staff. Mr. A. W. Russell, M.B. Aberd., has resigned his position as physician to the dispensary of the Glasgow Western Infirmary. The term of office of Mr. J. Nigel Stark, M.B. Edin., as assistant obstetric physician to the Glasgow Maternity Hospital having expired the post is advertised as vacant.

Nov. 9th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Proposed Hospital for Infectious Disease at Blackrock.

AT the meeting of the guardians of the South Dublin Union on the 4th inst. the proposal to establish an infectious disease hospital at Blackrock House was strongly opposed by Mr. James H. North, a well-known house and estate agent, on the grounds that the place is situated in the midst of occupied houses which closely surround it on all sides, making isolation entirely impossible, while the injury to the letting value of the neighbouring property would obviously be very great, the Blackrock township, situated on the seashore five miles from the General Post Office, Dublin, being largely made use of by the citizens as a health resort during the summer months. The situation offers no special advantages for the purpose proposed, while, on the other hand, anyone familiar with Dublin will recognise the fact that there are many sparsely populated districts in its suburbs where a suitable site for such a hospital could be easily obtained. The Local Government Board will doubtless recognise this and prevent further trouble to the residents and owners of property at Blackrock.

Trinity College, Dublin.

The opening meeting of the 128th session of the College Historical Society will take place on the 10th inst., when the auditor, Mr. G. F. Irwin, will deliver an address on "Edmund Burke," one of the early founders of the society. The President, the Right Hon. Lord Ashbourne, Lord Chancellor of Ireland, will occupy the chair, and amongst other speakers Sir William Thomson, the President of the Royal College of Surgeons in Ireland, and Sir Christopher Nixon will address the meeting.

The late Mr. Stamer O'Grady.

An influential meeting of the friends of the late Mr. O'Grady was held at the Hibernian Hotel on the 8th inst., Sir George Duffey, the President of the Royal College of Physicians of Ireland, occupying the chair. Resolutions were proposed or seconded by Sir Charles Cameron, Dr. Grimshaw, C.B., the Rev. Chancellor Tisdall, and others. A committee was ultimately elected and a subscription list opened with a view to perpetuate the memory of the late distinguished surgeon by means of some suitable memorial.

The Belfast Water-supply.

Owing to the prevalence of typhoid fever in Belfast and the criticisms made in reference to the water-supply the Belfast Water Commissioners have very wisely decided to request Dr. Frankland to take samples of the water as supplied by the Commissioners to the consumers and to examine and report on the same. His previous report,

referred to in THE LANCET,[1] was with special reference to the water in the various reservoirs.

The Forster Green Hospital for Consumption.

On Oct 30th, on the invitation of Mr. and Mrs. Forster Green, an immense number of the citizens of Belfast had an opportunity of inspecting this new hospital prior to its being opened for the reception of patients. Situated on the south side of Belfast, in a beautiful district with a southern aspect, this most commodious hospital, towards which for the payment of the land and buildings Mr. Forster Green has contributed £13 150, at present is adapted for forty intern patients, but the administration buildings are so constructed that they would serve for a much larger number in the future. The building is lighted with electric light, and the motor has been utilised to pump up the water-supply for the building. There is a good elevator, and the heating and ventilating on the Klemson system has been carried out by the Stourtevent Engineering Company, and they have contracted to supply a minimum of 5000 cubic feet of air per hour for each patient. In this admirable hospital, which will be a great advantage to Belfast, the most modern appliances have been adapted to ensure the comfort of the patients. It is hoped that the debt of £5000 against the hospital will soon be wiped out.

The Health of Belfast.

It was reported at the monthly meeting of the City Corporation, held on Nov. 1st, that the health of the city of Belfast is improving and that the death-rate during the previous fortnight was lower than it has been for months past. During the past three weeks the death-rate was 20·6, 18·9, and 18·0 per 1000 respectively. The death-rate from zymotic diseases has also decreased, and last week was only 1·9 per 1000, while the deaths from typhoid fever had fallen from 13 in the first week of October to 4 last week. During the four weeks (Sept. 23rd to Oct. 20th) 354 cases of typhoid fever were notified, 45 of scarlet fever, 42 of simple continued fever, 1 of typhus fever, and 13 of diphtheria. The number of cases of typhoid fever, though still too many, are fewer than in the preceding month and they are not confined to any particular district. From the reports presented by the dispensary medical officers at a meeting of their committee held on Nov. 1st it would also appear that the typhoid fever outbreak is on the decline and is not so prevalent amongst the poor as in the middle-classes.

The Ulster Medical Society.

The first meeting of the present session was held on Nov. 4th, when Professor Symington (the out-going president) resigned the chair to Dr. J. A. Lindsay, President for 1897-98, who delivered his inaugural address on the Problem of the Consumptive Poor. After a few preliminary observations Dr. Lindsay proceeded to make a calculation based on the Registrar-General's returns, the mortality tables of insurance companies, and the experience in other countries, of the probable amount of phthisis existing in the British Islands. He concluded that the number of phthisical patients exceeded a quarter of a million, and that of these at least 200 000 were cases which might in the ordinary course require and seek hospital treatment. The hospitals for phthisical patients and chest hospitals in the kingdom were enumerated and their total number of beds computed at about 1160. As cases of heart disease, bronchitis, &c., are admitted into many of these he did not think the number of beds available for phthisis exceeded 1000, or about 1 for every 200 patients. He thought this lamentable deficiency in accommodation was due to a general feeling of hopelessness regarding this problem and the lack of definite medical teaching and guidance with regard to it. A lucid account was then given of the progress made in other countries in providing accommodation for phthisis. The hospitals for phthisical patients in Germany, France, Switzerland, Austria, Norway, Russia, and the United States were enumerated, and the principles of treatment adopted in Germany by Dr. Brehmer and Dr. Dettweiler were detailed and highly commended. Dr. Lindsay believed that similar methods of treatment were practicable in properly equipped sanatoria in the British Islands, and that such institutions held out a good hope of cure or complete arrest for a certain proportion of cases, and restoration to comparative health and capability for work for a much larger number. He also thought these institutions would be a great service in educating patients in the principles of hygiene and in the best methods of preventing the spread of phthisis. The question of the contagiousness of phthisis was fully considered and the opinion expressed that while the direct transmission of the disease from one individual to another was probably a rare event, yet the malady was infective and usually contracted by the inhalation of pulverised sputum. Special institutions would be of great service in limiting the dissemination of the virus. The prevention of phthisis became more hopeful when the history of the gradual stamping-out of leprosy was considered. This subject was fully gone into, and Dr. Lindsay showed a map giving side by side the leper asylums of the British Islands in the middle ages and the hospitals for phthisical patients of to-day. The contrast told heavily against the present age. Encouragement might be obtained in the fight against phthisis from the fact that the disease was already on the decline, the decrease in twenty years having been at least 20 per cent. The duty of the medical profession was to point out clearly the line of advance which future progress must take. At the conclusion of his address a hearty vote of thanks was given to Dr. Lindsay.

Death of Francis Turnly Gage, M.B. T.C.D.

Great regret is felt in Ballycastle, county Antrim, at the death of Dr. Gage, which occurred at that place on Nov. 4th from hæmoptysis. Dr. Gage, who was the third son of General Gage, studied in Dublin and graduated M.B. of Trinity College in 1890. He had been in practice only a few years in Ballycastle, where, by his skill, kindness, and straightforward character, he won the esteem of all who came in contact with him. He was medical attendant of the coastguards. Dr. Gage, who leaves behind a widow and three young children, was buried on Nov. 6th.

The Belfast Asylum.

At the meeting of the board of governors of the above asylum on Nov. 8th the resident medical superintendent in his report pointed out that it was a matter of regret that when persons became actually insane they were frequently taken to the union workhouse prior to being brought to the asylum, much valuable time being thereby lost. To facilitate the early admission of such cases he proposed to supply the relieving officers of the dispensary districts with admission forms, so that when application was made the patients could be sent direct to the asylum. The medical superintendent thought the proper policy was to facilitate the admission and discharge of patients. The chairman (Professor Cuming, M.D.) said the policy suggested by the medical superintendent was a very wise one generally, but in the case of overcrowding it was desirable not to admit any patients who could be treated in the union infirmary.

Nov. 7th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Case of Dr. Laporte.

DR. LAPORTE has decided, at the instance of his medical brethren, to enter an appeal against the judgment on which he was sentenced. He has also agreed that the subscription which he at first refused should be opened on his behalf, and all the medical journals have signified their willingness to receive subscriptions, the maximum being fixed at 5 francs. The obstetricians of Paris continue to agitate in his favour; among others M. Pinard opened his course of lectures at the Faculty of Medicine with a discourse which has been a good deal talked about and in which he severely criticised the attitude of the magistrates throughout this affair. Professor Varnier has published in the *Revue d'Obstetrique* the text of the report of the experts MM. Socquet and Maygrier—the report, that is to say, upon which the judge caused Dr. Laporte to be arrested. Professor Varnier discusses this report phrase by phrase, although the publication of evidence in a law case is forbidden by French law. He alleges that the post-mortem examination was made very carelessly and clumsily ("dans des conditions de maladresse extrême") so much so that the experts might well be asked whether the perforations exhibited were not made by their own instruments. Professor Varnier concludes by saying that if a specimen of such a kind had been brought to him as a specimen of traumatic perforation to place in a museum he would have refused it. Up to the present Professor

[1] THE LANCET, Oct. 23rd, 1897, p. 1052.

Varnier has not been prosecuted for his infraction of the law.

The Treatment of Tuberculosis by Euphorbia Resin.

M. Pénières, of Toulouse, has just laid before the Academy of Medicine the results of some interesting work with regard to a new treatment of tuberculous lesions which are amenable to surgical treatment. His plan is to treat tuberculous foci by means of injections of euphorbia resin, the strength being under one milligramme. By this treatment he has cured the masses of tuberculous glands in the neck which are so common in young children, and one great advantage of this plan is that it leaves no unsightly scars and is available for the treatment of tuberculous affections of both bones and joints. M. Pénières cited the case of a young man who was affected with tuberculous disease of both wrist joints. Suppuration had occurred in both the bones and the soft parts. The patient had been condemned to amputation, or at least to a resection, but he is to-day perfectly well. M. Pénières exhibited in support of his statements a series of x ray photographs of the affected parts, before, during, and after treatment. In the first set the bones of the wrist joint were seen to be sewn with little black points just like those in worm-eaten wood; then the holes were seen to be filling up, and finally the bones exhibited normal characters. All the sinuses have healed and the patient, who formerly could not hold a fork or even blow his nose, is now able to resume his occupation as a wood-carver. The action of the euphorbia resin must not be pressed by repeating the injections too often. One injection every eight days or even every fifteen days is generally quite often enough. The best preparation is a very fine emulsion in alcohol of such a strength that one cubic centimetre of the fluid contains one-fourth of a milligramme of euphorbia resin.

The Etiology of Cirrhosis in the Intemperate.

At the Academy of Medicine the discussion on this subject between M. Lancereaux and his opponents still continues. M. Laborde, of the Faculty of Medicine, in a communication the reading of which occupied two meetings, maintained in opposition to M. Lancereaux that the cirrhosis of the intemperate is caused by alcohol and not by the potassium sulphate in "plastered" wines. M. Laborde pointed out that it was almost impossible to find tipplers who confined themselves to wine and that in the countries where wine is either not used at all or only used very sparingly, as in some States in North America, the alcoholic origin of cirrhosis was unquestionable. In Normandy, where the people were far from temperate, M. Laborde had had the opportunity of closely observing forty-five individuals who drank only spirits, and he found by percussion that the livers of all of them showed an enlargement which was the first stage of impending cirrhosis. He was therefore convinced, in like manner with MM. Dujardin-Beaumetz and Audigé, that cirrhosis of the liver is the direct consequence of chronic alcoholic poisoning. The question of "plastering" still remained for consideration. The experiments of M. Lancereaux involved an essential fallacy, for he did not know what amount of potassium salt was really absorbed by the rabbits which he used. M. Laborde believed that this amount was very large. It is well known that potassium salts are rapidly eliminated, that they are not injurious except in very large doses, and that such deleterious action as they have is exerted, not on the liver, but on the heart. M. Laborde believed that rabbits were unsuitable for such experiments, as they were extremely sensitive to mineral poisons, and in making an investigation of the subject, on which he has been for a long time engaged, he followed a course which promised more reliable results. He gave wine to two dogs—wine containing 2 grammes of "plaster" per litre to one of them and natural wine to the other. These two dogs had as much as 500 grammes (17 oz.) of wine every day, and this large quantity was continued for from fifteen to twenty days, when their appetite was completely lost, and the experiment was stopped for fear that they might die. No symptoms were observed beyond those of the ordinary inebriety due to wine; there was no apparent action of the potassium salts. M. Laborde then varied the experiment by omitting the wine and giving to a dog in fifteen days a total quantity of potassium bisulphate equivalent to 80 grammes (nearly 3 oz.) for an average adult man. The dog's health continued perfectly good. It must also be borne in mind that everybody took in his daily food from 5 to 7 grammes (from 75 to 105 grains) of potassium salts, and at this rate cirrhosis ought to be universal. In M. Laborde's opinion M. Lancereaux erred when he asserted that alcohol was not the cause of cirrhosis of the liver in the intemperate, and his views were not only at variance with the results of careful observation and experiment, but, more than this, they constituted a real danger by encouraging the belief that wine was more injurious than spirits. The enemy which ought to be always and everywhere guarded against was not "plaster" and was not wine, but was spirituous liquor. M. Lancereaux, in reply, confined himself to repeating the statement that all cirrhotic patients in Paris were wine drinkers. By giving potassium bisulphate to rabbits he had produced nothing but very well-marked cirrhotic lesions. The cirrhosis of the intemperate existed long before the modern development of spirit drinking. Alcohol caused various lesions, but these lesions never had cirrhosis as their fundamental process.

Nov. 9th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Dr. Giuseppe Levis.

THIS eminent consultant, who died at Udine on Sunday morning, the 24th ult., will be greatly missed in Milan, where he was for years the Medico Primario of the Ospedale Maggiore and presided over the Istituto Antirabbico. In the cholera epidemic of 1884 his efforts in concert with Dr. Todeschini to mitigate the scourge and to guard the city against future attacks are still gratefully remembered by the Milanese. Besides his merits as a practitioner he had rare gifts as a lecturer, and attracted to his clinique not only students but graduates by his power of luminous exposition and vivid and impressive statement. Since 1895 he had suffered from diffused arterial sclerosis aggravated by aneurysm of the external iliac artery, and latterly by hepatic dropsy due to cirrhosis. For this paracentesis was three times practised with only temporary relief. Last summer he was under Professor Grocco's care at Montecatini, but was found in too hopeless a condition to offer any chance of recovery. In fact, Professor Grocco, shortly after seeing him, sent him back, escorted by an assistant, to Udine, where in the house of his daughter he died.

The English-speaking Practitioner in Italy.

At the last General Medical Congress held here it was moved and unanimously carried that foreign medical practitioners professionally engaged in Italy should undergo a State examination or qualify at one or other of the Italian schools in order to legalise their practice. In consequence of this step a deputation of the English-speaking practitioners has just waited on Signor Serena, Under Secretary of State for the Home Department, to protest against such action. His Excellency announced in reply that arrangements in the direction proposed by the Italian Medical Congress had not yet been taken, but that in any case the Government before giving legal effect to the innovation contemplated by the Congress would put itself in diplomatic communication with the Governments of the other Powers (Great Britain included), with a view to obtaining for Italian practitioners in those countries the same privileges enjoyed in Italy by foreigners. The matter will probably rest there. It is said that foreign dentists, against whom the edict referred to in my last letter has now gone forth, in the event of their being "contumacious," are to be denounced to the judiciary authority. This is a very hard measure for the practitioners of a sister profession and singularly ill-advised as regards the interests of Italy herself. The presence of an English-speaking dentist in her chief centres of foreign sojourn is one of several attractions for the Anglo-American world, without which these places would in great measure cease to be resorted to. Italy, of course, must be credited with knowing what is best for her own advantage and to "order her house" accordingly; but the exclusion of the English-speaking dentists from her cities cannot but strike the outer world as in more ways than one a suicidal step. By the admission of Italians themselves these practitioners possess in their home qualifications an even higher guarantee of professional training and efficiency than any to be found in Italy, while it is an open secret that no Italian when he can afford the choice prefers a compatriot dentist to one imported from America or the British Isles. There

is, however, another feature in the circular to which I alluded affecting a still more considerable public than that professionally interested in dentistry—I mean the practitioners of medicine. The Marchese di Rudini, in his address to the prefects, sets out by reminding them that Article 23 of the "Legge sulla Sanità" at present in force forbids the foreign medical graduate from practising unless, in addition to his home qualification, he possesses an equivalent one of some recognised Italian school. Article 140 of the "Legge" of Nov. 14th, 1859, he proceeds, confirms the above, but—the words that follow must be given textually—"eccettua da tale divieto i medici ed i chirurghi stranieri espressamente chiamati per casi speciali e quelli che esercitano la professione presso i soli forestieri" (it excepts from such prohibition the physicians and surgeons of foreign nationality who are expressly called in for special cases and those who exercise their calling among foreigners only). It is primarily on the ground that this second "Legge" makes no mention of "dentists" that the Minister of the Interior would exclude those of foreign nationality from practice, thus falling back on the letter of the law to the ignoring of its spirit. Conscious apparently that this is not a high-minded or statesmanlike proceeding His Excellency goes on to justify his mandate by the argument that "degrees" for special departments of medicine and surgery being now compulsory in Italy, and that "dentistry" being a department of surgery, the foreign dentist, not being a medical graduate, cannot avail himself of the privilege of the foreign physician or surgeon and must take an Italian degree or forfeit the right to practise even among his compatriots. This looks very like quibbling, to say nothing of the fact already noted that qualifications in dentistry are commonly held by Anglo-American practitioners in that department implying as good a preliminary training in medicine as that of any holder of an Italian dental degree. British and American odontology, however, may be trusted to vindicate its own rights, and its medical sister can only wish it Godspeed. Meanwhile it is satisfactory to have the Marchese di Rudini's re-affirmation in so recent a document of the right of the English-speaking physician and surgeon resident in Italy to form a *clientèle* among his compatriots in that country, strengthening as it does our impression derived from Signor Serena's answers to Dr. Santini last summer that the Italian Government has no immediate desire to legislate in Dr. Santini's sense, and, by passing sentence of banishment on the English-speaking practitioner, to deter from sojourning in Italy that Anglo-American world from which her needy and sorely taxed population derives so essential a part of its income.

Report of the Italian Commission on the Pestis Bubonica.

Dr. Alessandro Lustig, Professor of General Pathology in the Florentina Istituto di Studi Superiori, in concert with Dr. Malenchini, Dr. Galeotti, and Dr. Levi, experts in pathology and bacteriology, also of the Tuscan school, was deputed by the Italian Government to conduct a series of experiments, first at home and then in the Bombay Presidency, with a view to discover a "vaccino contro la peste bubbonica," as the terms of their mandate express it. Since their return from India in September Professor Lustig has been engaged in drawing up a report of their work; and now that it has appeared it will interest your readers to have a brief, but adequate, summary of its tenour. The British authorities, says Professor Lustig, were most liberal in their endeavour to facilitate the object of the Commission. Their assistance was all the more welcome, for, says Professor Lustig, the natives put every difficulty in the way of his procuring the "materia prima" of the pathologist—the dead subject. A strange rumour, credited by the poorer classes, came to the rescue. During the epidemic a fanatic had besmirched the statue of the Empress-Queen and, by a coincidence which profoundly impressed the popular imagination, from that day the "pestis bubonica" raged with increased destructiveness. It was then declared that the only check to its ravages would be the "sending to London of a thousand Hindoo livers"—a placebo to the indignant British which multiplied the number of necropsies! Professor Lustig and his colleagues availed themselves of the opportunities thus presented. They obtained the "cadavera" required and were not long in coming upon the bacillus of the disease. This, he says, opposes (fortunately) a feeble resistance to the action of disinfectants; and following up his experiments, mainly on rats and apes, he found its mode of entrance into the organism was by the skin and by the mucosa of the respiratory and alimentary apparatus. Often it stops there; but oftener still it passes directly into the circulation. The "bubonic form" is not necessarily that which it most frequently assumes; the "pestis" itself, indeed, is one of those maladies which may be combated by cleanliness, disinfection, energetic and radical, and, above all, by isolation of the patient, real or suspected. Professor Lustig proceeds to describe his first experiments in the direction of "vaccination." A Russian colleague sent him some cultures of noteworthy virulence. With these he began his investigations in concert with Dr. Galeotti. He reproduced the various pathological forms which he had obtained, inoculating milligrammes of the culture by different channels, either subcutaneously or into the veins or into the abdominal cavity of animals highly responsive to the morbid agent, especially sewer rats. Finally, he succeeded in immunising these rats and other animals so as to render them wholly and persistently proof against the most virulent plague-inducing bacillus. In doses of 8·35 milligrammes the vaccine proved fatal to the rat; injected, however, in smaller doses under the skin and dissolved in alkaline water the vaccine produced only a slight malaise for a day or two. "It is," says Professor Lustig, "innocuous for man. Neither I nor Dr. Galeotti, nor the others who underwent its influence, after an injection of two milligrammes of the vaccine under the skin felt any serious disturbance except a mild febricula for two days and a slight redness of the inoculated part. The most robust persons responded feebly to the vaccination, the less robust somewhat more energetically. The vaccine does not contain 'bacilli pestiferi,' living or dead, and may be preserved dry even for months." But the object of Professor Lustig's inquiries was to ascertain what action both the "vaccine" and the serum exerted on man and on the animals most akin to him. It was, therefore, necessary to repair to the regions infected by the plague. At the end of May accordingly Professor Lustig, Dr. Malenchini, Dr. Galeotti, and Dr. Levi set out for India, and of the tenour of their experiments there and the results yielded I will give some account in my next letter.

Nov. 7th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Legal Sanction of an Unqualified Practitioner.

A CELEBRATED statesman once characterised Austria as the country of impossibilities, and the description is to some extent justified by a recent occurrence. In Upper Austria there are a great many persons of the peasant class who, although they have not studied medicine, nevertheless take on themselves to attend patients, and the provincial government, consisting of adherents of the clerical party, has just addressed a petition to the Emperor praying that permission to practise (*venia practicandi*) might be granted to one of these unqualified individuals. Incredible as it may appear, the request has been complied with, the consequence being that a peasant who never studied either anatomy or any other branch of medicine is now a legally recognised medical practitioner. The President of the Upper Austrian Medical Chamber has energetically protested against this disregard of the law, and many other medical chambers will also do so, but the present political situation makes it impossible to hope that these protests can be successful, for the permission has been granted at the instance of Dr. Ebenhoch, who is one of the most influential supporters of the present Government and is president designate of Parliament.

Streptococcic Toxin and Anti-streptococcic Serum.

Dr. Schenk has published in the *Klinische Wochenschrift* an interesting account of experiments made by him with streptococcus cultures. He found that the effects produced on rabbits by identical quantities of such cultures were far from being uniform. He also made a series of experiments in which virulent injections were given twenty hours after injections of serum, the result being that of sixty rabbits so treated twenty-three survived. These experiments might be called prophylactic; in curative experiments, on the other hand, only two animals survived out of twenty-one. Dr. Schenk also investigated the relation of the streptococcus to erysipelas. As intra-peritoneal and subcutaneous injections of virulent fluids caused only trifling

local changes he experimented on the ears of rabbits and came to the conclusion that it was not possible to produce erysipelas with Marmorek's streptococcus, although it may be produced by the streptococci obtained from a phlegmon. In the experiments on the prophylactic or protective power of anti streptococcic serum 1 c.c. of it was injected into the ear of a rabbit, and this was followed by an injection of 1 c.c. of streptococcus fluid in from sixteen to twenty-four hours; the result was a slight erysipelas; and the same was the case with a second rabbit which was injected with 2 c.c. of serum and 1 c.c. of streptococcus fluid. In a further series of similar experiments there were three deaths in cases in which the quantities of serum injected were respectively 1 c.c., 2 c.c., and 2 c c, the quantity of streptococcus fluid being 1 c.c., so that the serum obviously failed to prevent infection. According to Bordet there is a morphological property of streptococci which deserves attention, some that are found in the cardiac blood of rabbits having a capsule and being larger than those which have no capsule.

Treatment of Glaucoma.

The *Klinische Wochenschrift* recently contained a short report on the treatment of glaucoma by resection of the superior cervical ganglion as practised by Dr. Jonnesco. He performed this operation on a man, fifty years of age, who had been suffering from glaucoma for six years, and had lost his sight two years previously. The result was that the high intra-ocular pressure immediately became subnormal, and on the second day vision was so far recovered that the patient could count fingers at a distance of two metres (6½ ft.) and could see to walk about by himself. Dr. Jonnesco has obtained equal success in two other cases.

The Goldberger Prize.

The Vienna Medical Society has awarded the Goldberger Prize of 1000 gulden (about £83) to Dr. Ruhemann, of Berlin, for his pamphlet on the question, "Is Catching Cold a Cause of Disease?"

University Intelligence.

A monument to that renowned surgeon, the late Professor Billroth, will be unveiled on Nov. 7th; the principal speaker on this occasion will be Professor Gussenbauer, who was formerly an assistant to Professor Billroth. — Professor Gruber, the famous otologist, celebrated his seventieth birthday on Oct. 16th.

Nov. 6th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

A New Test for Typhoid Fever.

THE Health Board of New York claims that a medium has been found in which the typhoid bacillus will thrive, but in which the colon bacillus will not. Typhoid germs are to be found only in the intestines, if at all. Unfortunately the colon bacillus haunts the same region and resembles the typhoid bacillus very closely in appearance, but is absolutely harmless. If, therefore, in matter thrown off from a patient's digestive tract either species is found it is very difficult to tell of which sort it is. Dr. Hiss thinks that he has discovered a test, and the Health Board is going to adopt it officially. The test consists of a culture medium in which typhoid germs will multiply and the colon bacillus will not. The culture is composed of gelatin, agar, glucose (to make the mixture ferment), salt, and Liebig's food. Typhoid germs grow in it and the colon bacillus does not. In actual practice a minute quantity of the semi-fluid matter sent for examination is taken off on a loop and is placed in a small vial containing the culture. Eighteen hours is sufficient time for the bacilli to grow, and a statement of results will reach the medical man in thirty-six hours after he has sent a specimen to the laboratory. At the end of eighteen hours a small portion of the culture is spread on a glass plate which has a glass cover. In a short time the appearance of this plate will give the information sought in showing if there has been any growth. If there is growth it is a case of typhoid fever; if not probably no typhoid fever exists.

The Increase of Suicide.

It appears from a recent paper that the suicide record of the United States since 1890, according to recent statistics, stands as follows: 1890, 2040; 1891. 3531; 1892. 3860; 1893. 4436; 1894, 4912; 1895, 5750; and 1896, 6520. The census of 1880 furnishes us with the number of suicides in that year—2511; but the census of 1890 contains no information upon the subject, the word "suicide" having been omitted. It appears certain that in each 100 000 deaths from specified causes 253 in 1860 were due to suicide, 273 in 1870, and 331 in 1880. These figures, however, give no idea of the actual number of persons who voluntarily ended their existence during the years named; they merely tell us of the number of cases of suicide which were discovered.

Hot Weather and Crime.

Officers of the Weather Bureau have undertaken an investigation of the relation of the weather to crime. Taking the whole country during January, February, and March there were in even numbers 1200 suicides reported in the United States, while in July, August, and September there were 1600. In the same period there were 1700 murders in the cold term, as compared with 2500 in the three hot months. There were 50 persons hanged or lynched in the three cold months, and 113 hanged or lynched in the three hot months.

The Causes of the Decline in the Average Income of General Practitioners of Medicine.

Dr. Charles Phelps, President of the New York State Medical Association, states that the earnest effort made before the last legislature to obtain relief from certain abuses of medical charity was proof of the general diminution in the incomes of physicians, particularly in this city. But this was only one cause; there were others, and it should be remembered that medical practice, like other things, was largely regulated by the well-known principle of supply and demand. It was also easily demonstrable that the amount of sickness in our community had notably diminished. This increased healthfulness even the public was now willing to admit was largely due to the advances made in the bacteriological and pathological laboratories and to a better control over disease by the proper sanitary authorities. Thus, epidemic dysentery had become unknown here and variola was practically unknown. The maintenance of a reasonable standard of purity for milk and proper supervision of plumbing had done much to diminish gastro-intestinal disorders. The effect of the improved cleanliness of the streets on the public health was, in his opinion, problematical. Among other causes mentioned were the general depression, the want of proper adjustment of fees to the income of the patients, the business methods in vogue at the present time, the more complicated mechanism for the treatment of disease, and the increasing custom of sending patients to sanatoriums and hospitals.

Vacation Schools.

These schools minister to the all-round development of the children, for the large playrooms are utilised for calisthenics; the morning half-hour devoted to dancing is sure to find light hearts and feet. One summer all the children were taken, on successive days, under the care of their science teachers, to the ocean homes of the association, where the day was spent in collecting various objects incident to the seashore. Another year they were taken, under competent guidance, to the Museum of Natural History. There is no reason why this side of the work should not be immensely extended in order to make more available the resource of museum and art gallery, because we are only beginning to utilise the social and educational resources of our cities. There is no reason why the very school buildings should not be used more in the evenings, under proper restrictions, because there are many kinds of meetings and entertainments for which they would be available.

Cruel Treatment of Animals in Transportation.

The New York State Society for the Prevention of Cruelty to Animals states that during the past year at Buffalo 16,000 sheep and hogs had been taken out of the cars dead, and more than 8000 had been removed at the same place in a diseased or disabled condition; moreover, these animals were sold for public food and consumption. The coöperation of the association is asked in preventing the cruelties now imposed on these animals while in transit.

Nov. 2nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Curative Value of Calmette's Anti-venomous Serum in the Treatment of Poisoning by Australian Snakes.

AT a recent meeting of the Medical Society of Victoria Dr. C. J. Martin read a very able and interesting paper on the above subject based on a number of very careful experiments. He showed that the venoms of all Australian snakes contain at least two proteids; one is coagulated and rendered inert by heating to 85° C., and the other is not coagulated even on boiling. It is, however, sensitive to heat, and even momentarily boiling it diminishes its toxic property and prolonged heating destroys it. The two constituents can be isolated by filtration through a film of gelatin supported in the pores of a porcelain filter. The coagulable proteid destroys the blood corpuscles and the continuity of the capillary walls, produces intra vascular clotting if reaching the circulation with sufficient rapidity, and is a powerful poison to cardiac muscle. The non-coagulable constituent has none of these properties, but affects particularly nerve cells, those of the respiratory centre being especially susceptible. Cobra venom consists very largely (98·25 per cent.) of an uncoagulable proteid similar in action to the one in Australian snakes, consequently it would be expected that Calmette's serum from an animal immunised against cobra venom would have a diminished value against the mixed venom of Australian snakes, although Calmette affirmed that it was equally valuable as a remedy against the poison of all snakes. The result of Dr. Martin's experiments showed that the serum possesses some slight immunising power against the venom of the tiger snake when administered intravenously and one hour before the inoculation of the poison. Injected hypodermically before or coincidently with the venom the animals (rabbits) died. The effect on the different constituents separately was then tried and he found that against the uncoagulable element the serum has a decided protective influence when injected in considerable quantity directly into the circulation just before the poison is inoculated. This power is so slight that the serum is practically valueless as a remedial agent. Dr. Martin also suggests that antitoxin remedies of all kinds, as diphtheritic antitoxin, should be introduced directly into the circulation instead of under the skin, whence they may not be wholly absorbed for twenty-four hours.

The Tuberculin Test for Cattle.

Tuberculin has been used in New South Wales for about two years to detect tuberculosis in cattle, and in the opinion of the President of the Board of Health with great advantage. It is not infallible, but the percentage of errors when properly used is small. Many of the unsatisfactory results arise from disregard of details in its use. The Board of Health has issued a number of rules to be observed in using tuberculin and also a form of record. It is hoped that uniformity in method will thus be secured, and after a time it will be possible to ascertain from the records precise results as to the value of the method.

Food Standards.

The Board of Health of New South Wales has recommended the adoption of certain standards for milk, butter, tea, vinegar, and spirits, with a view of simplifying conviction in cases of adulteration. The following are the standards recommended:—

"Milk shall contain not less than 12¼ per cent. of genuine milk solids, of which at least 3¼ per cent. shall be butter fat; the milk solids to be obtained by drying any convenient quantity of the sample on a water bath for three hours until constant in weight. Then upon subtraction of 3¼ per cent. of fat the remainder shall be taken as the coefficient of 'solids not fat,' and shall be at least 9 per cent.

"Butter shall contain not less than 85 per cent. of genuine butter fat.

"Tea shall not contain more than 8 per cent. of mineral matter calculated on the tea dried at 100° Centigrade, of which at least 3 per cent shall be soluble in water, and the tea as sold shall yield at least 28 per cent. of extract.

"Vinegar shall contain not less than 3 per cent. of acetic acid ($C_2H_4O_2$) and not more than one-thousandth part by weight of sulphuric acid.

"Spirituous liquors, brandy, whisky, and rum shall not be more than 25 per cent. underproof. Gin shall not be more than 35 per cent. underproof."

New Offices for the Board of Health of New South Wales.

On Sept. 20th the Board of Health of New South Wales moved into their new premises recently erected at the corner of Macquarie-street and Albert-street, Sydney. The building is very complete. On the basement is an open way by which ambulance waggons can be brought into a courtyard, into which open isolation rooms for infectious cases and the rooms where patients are seen prior to admission and removal to the Coast Hospital for such cases. On the ground floor are the offices of the Board. The first floor is devoted to the Government analyst, who is provided with a large laboratory. The veterinary staff is also located on this floor. The Government bacteriologist has a very complete laboratory on the second floor, with rooms above for experiments on animals. The building was erected under the direction of the Government architect, assisted by the Board of Health, and has cost about £10,000.

River Pollution in Melbourne.

A deputation waited on the Board of Public Health of Kalma on Sept. 22nd to ask the Board to take some steps to remedy the pollution of the Saltwater River. A number of noxious trades were carried on along its banks and much blood and offal found their way into the river. The chairman replied that little could be done until the underground sewerage was completed, and a Bill was being drafted to deal with slaughter-houses.

Peculiar Action against a Medical Man.

On Sept. 8th a medical man, of Sydney, was sued for £500 compensation by a publican for having, as was alleged, used his hotel for immoral purposes. The statement of the plaintiff was that the gentleman brought a woman to his hotel and engaged a room there. For the defence the doctor denied having engaged the room, and said that the woman was a patient and only seen professionally. The plaintiff admitted that he was an uncertificated insolvent, and that his licence at a previous hotel had been opposed by the police. The jury found for the plaintiff and awarded 20*s.* damages.

Action against a Medical Man for Reporting a Case as Typhoid Fever.

At the Sydney District Court, on Sept. 9th, a dairyman sued Dr. Gwynne-Hughes for £200 damages for alleged unskilful, improper, and negligent treatment. The plaintiff stated that Dr. Gwynne-Hughes was called in to see his daughter, and that he diagnosed the case as typhoid fever and caused her removal to the Coast Fever Hospital, reporting the case as such. The Board of Health thereupon cancelled his registration as a dairyman and his dairy was closed, causing him considerable loss. The medical officer at the Coast Fever Hospital diagnosed the case as one of congenital heart disease, and on the patient's death two days afterwards signed a certificate that she died from heart disease. In his evidence the medical officer said that he would not swear that the child might not have had typhoid fever in an early stage. No post-mortem examination was made. A verdict with costs was awarded in favour of Dr. Gwynne-Hughes.

Sympathy with Dr. E. J. Gurdon.

A well-attended meeting of the medical profession was held in Melbourne on Sept. 23rd to express sympathy with Dr. E. J. Gurdon, who was recently subjected to a vexatious and expensive action at law (as mentioned in THE LANCET of Oct. 30th). Unanimous resolutions were passed sympathising with Dr. Gurdon. A subscription list was opened and all medical practitioners in Australia were asked to contribute towards defraying Dr. Gurdon's expenses.

Sept. 25th.

Obituary.

THOMAS GOLDESBROUGH STOCKWELL, F.R.C.S. ENG.

BY the death of Mr. Stockwell on Nov. 2nd an honoured name is removed from the roll of the medical profession of Bath, in which city he was born in 1823, his father being a medical man who had settled there the previous year. Mr. Stockwell was entered as a student of medicine at the Royal United Hospital, Bath, in 1842, and there received his first lessons in surgery from such capable surgeons as Norman and Brown. Thence he proceeded to St. George's Hospital, London, and became a Member of the Royal College of

Surgeons of England and Licentiate of the Society of Apothecaries in 1845. After qualifying he returned to Bath, joining his father, and eventually succeeding him in practice. In 1855 he passed the examination for the diploma of F.R.C.S. Eng. Mr. Stockwell was appointed medical officer to the Eastern Dispensary and in 1860 surgeon to the Royal Mineral Water Hospital. Five years later he became surgeon to the Royal United Hospital. This appointment he held until his death, and for many years he had a large practice in Bath and the country round. His sound common sense and his ready resource eminently fitted him for surgery in the days when instruments and apparatus were not so perfect as they are now. Dexterity without showiness characterised his operations, and his results were good. The storm and strife of public affairs had no attractions for him, but in the family circle he was genial and hospitable, and his kindly presence will long be missed by rich and poor alike in his native city.

CHARLES WETHERED, M.R.C.S. ENG., L.S.A.

THE news of the death of Mr. Charles Wethered will be received with regret by many of the inhabitants of Stroud, where he was in practice for many years. He was born in the year 1827, and received his medical education at University College, and qualified in 1848. He passed most of his life at Stroud, where he was surgeon to the General Hospital, and when he retired from practice he carried with him the general respect and esteem of his many friends and patients. The last few years of his life he spent on his estate near Moreton Hampstead in South Devon. His great relaxation was the study of architecture and archæology. He was an intimate friend of Viollet le Duc, and his book, "The Works of Viollet le Duc in Connexion with the Historical Monuments of France," attracted much attention. He was made an Honorary Associate of the Royal Institute of British Architects, and published some contributions in the Transactions of that society.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Gadaud, formerly in the French Cabinet.—Dr. Paul Güterbock, *privat-docent* of Surgery in Berlin with the rank of Professor, at the age of fifty-four years. His chief work was connected with the surgery of the urinary organs. He was also much interested in the History of Medical Science.—Dr. Aurelio Silvestri, Lecturer on Ophthalmology in the Florence School of Medicine.—Dr. Arthur Scheffer, formerly Professor of Chemistry and Medical Physics in the University of Kieff.—Dr. St. Danillo, *privat-docent* of Psychiatry in St. Petersburg.—Dr. Shukoff, a St. Petersburg neurologist.—Dr. Alphonse Albert, a much-respected Liége practitioner, at the age of ninety years.

BEDFORD MEDICAL SOCIETY.—The quarterly meeting of this society was held at the Bedford General Infirmary on Oct. 28th, Dr. G. P. Goldsmith being in the chair.—Dr. Goldsmith showed a Uterine Myoma which he had removed.—Mr. Nash showed (1) a boy with Macrodactylism affecting the Second and Third Toes and also a Skiagraph of the same; (2) an infant with Arrested Development of the Right Eye and Congenital Fissure of the Right Nostril; and (3) a boy on whom he had performed Tarsectomy for Severe Talipes Varus.—Dr. Hartley opened a discussion on the Use of Antipyretics in Reducing Fevers, which was carried on by Dr. Goldsmith, Mr. Philips, Mr. Sharpin, Dr. Waugh, Mr. Cock, Dr. Ross, and Mr. Nash.—Dr. Ross read notes of a case of Laminectomy for Cervical Paraplegia. The patient fell on to his head and immediately lost power in his arms and legs. He was admitted into the Bedford General Infirmary, and as he showed no improvement at the end of a month Mr. Nash operated and found no fracture, dislocation, or hæmorrhage outside the cord. Some slight improvement occurred both in sensation and motion. Six weeks after the operation the patient died worn out by bed-sores and urinary complications. As no necropsy could be obtained the cause of the paralysis could not be ascertained.—Mr. Nash read a paper on Three Cases of Fracture of the Coronoid Process of the Ulna, which will be found in another column of this issue.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND AND ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following have passed the Conjoint Examination for the diploma in State Medicine:—

W. A. Chapple, M.B., Ch.B., Univ. New Zealand.
H. L. Clare, M.B., B.Ch., Univ. Dub.
A. Greenwood, M.B., Ch.B., Vict. Univ.
Surgeon-Major Mulvany, L.R.C.P. & S. Edin.

A MEDICAL DEPUTY-LIEUTENANT IN IRELAND.—The Earl of Dunraven, K.P., Her Majesty's Lieutenant and Custos Rotulorum for the County of the City of Limerick, has, by commission bearing date Oct. 11th, appointed Mr. James O'Shaughnessy, M.R.C.S. Eng., L.A.H. Dub., J.P., of 7, Glentworth-street, in the City of Limerick, to be a Deputy-Lieutenant for the County of the City of Limerick.

SOCIETY OF ARTS.—The Society of Arts will commence its session (the 144th from its foundation in 1754) on the 17th inst. with an address on the Colonies, their Arts, Manufactures, and Commerce, by Major-General Sir Owen Tudor Burne, G.C.I.E., K.C.S.I., the chairman of the society's council. There will be four meetings on successive Wednesdays before Christmas, at which papers will be read by Professor James Douglas, Dr. Leonard Waldo, D.Sc., Mr. Bennett H. Brough, and Dr. Samuel Rideal, the last of whom will discuss a subject of much interest to medical men—namel, the Purification of Sewage by Bacteria.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At the monthly meeting of the Fellows of the Royal College of Physicians of Ireland held on Friday, the 5th inst., the following resolutions were unanimously adopted:—1 "The College have heard with great regret of the death of Lieutenant George Duffey, and beg to express their deepest sympathy with Sir George and Lady Duffey and the other members of the family in their sad bereavement." 2 "That the President and Fellows desire to place upon record their regretful sense of the loss which has befallen the Royal College of Physicians of Ireland in the death of their distinguished colleague, the Rev. Dr. Samuel Haughton, Senior Fellow of Trinity College, Dublin; and they take this early opportunity of conveying an expression of their sympathy to the members of Dr. Haughton's family."

UNIVERSITY OF CAMBRIDGE.—Dr. A. A. Kanthack, M.A., of St. John's College, F.R.C.P. Lond., F.R.C.S. Eng., has been elected to the chair of Pathology, vacant by the death of Professor C. S. Roy.—The University Lectureship in Midwifery is vacant by the resignation of Mr. E. H. Douty, M.B. Camb. The appointment is for five years from Christmas, 1897, and the stipend is £50 a year. Candidates must send in applications and testimonials to the Vice-Chancellor by Nov. 15th.—Mr. H. K. Anderson, M.B. Camb., Demonstrator in Physiology, has been elected to a Fellowship at Caius College; and Mr. W. McDougall, M.B., house physician to St. Thomas's Hospital, to a Fellowship at St. John's College. Both gentlemen gained high distinction in the Natural Sciences Tripos.—For the examination in State Medicine in April and October of the present year seventy candidates presented themselves, and thirty-four were successful in satisfying the examiners and obtaining the University diploma in Public Health.—The degree of M.A., *honoris causâ*, was on Nov. 11th conferred on Mr. C. R. Marshall, M.B. Camb., Ch.M. Victoria, Assistant to the Downing Professor of Medicine.—Dr. A. Macalister, Mr. E. G. Browne, M.B. Camb., and Mr. F. V. Dickins, M.B. Lond., have been appointed Electors to the new Professorship of Chinese.—The Examiners in Medicine and Surgery at Cambridge University have issued a corrected plan for the Michaelmas Term Examinations. The examination in Human Anatomy and Physiology (Second Examination, Part II) will commence on Wednesday, Dec. 15th, on which day and on Thursday, Dec. 16th, there will be written examinations, both in the morning and the afternoon. On the mornings of Friday, Dec. 17th, Saturday, Dec. 18th, Monday, Dec. 20th, and Tuesday, Dec. 21st, there will be Practical and Oral Examinations in Anatomy and Physiology in the Anatomical School and the Physiological Laboratory.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—The Cardiff Football Club has given £90 for the purpose of establishing a scholarship to be held for three years.

SIR JOHN WILLIAMS, Bart., M.D. Lond., has been elected a member of the Council of the University College of Wales.

DORSETSHIRE COUNTY ASYLUM.—At the quarterly meeting of the Dorset County Council, held on Nov. 2nd, Lord Digby stated that during the past six months the County Asylum had made a profit on private and out-county patients of £1500, which amount had been handed over to the county treasurer.

PTOMAINE POISONING.—An inquest was held last week at Swansea upon the body of a little child who died after partaking of some roast goose, and a verdict of "Death from ptomaine poisoning the result of misadventure" was returned.

BRIDGWATER INFIRMARY.—The eighty-fourth annual general meeting of this institution was held on Nov. 4th, under the presidency of Mr. W. Holland. The annual report and the financial statement were of a satisfactory character. Mr. W. Bruce was elected President for the ensuing year.

ROYAL UNITED HOSPITAL, BATH.—The fourth annual amateur week on behalf of the Royal United Hospital was held last week at the Theatre Royal, Bath, under the direction of Dr. Lionel Weatherly, when highly successful performances were given of *The Mikado*, *A Soldier's Silence*, and *The Passport*.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The second meeting of the forty-second session was held on Nov. 5th at the Royal Kent Dispensary, Greenwich-road, Mr. W. Arbuthnot Lane, the President, being in the chair. There were sixteen members and two visitors present. Mr. C. J. Parke showed a girl, aged thirteen years, the subject of Hæmorrhagic Diathesis.—Dr. F. S. Toogood showed the following cases from the wards of the Lewisham Infirmary: (*a*) a case of Exophthalmic Goitre which had been benefited by thyroid tabloids; (*b*) a case of Spondylitis Deformans in a man; (*c*) a case of Dropped Wrist from Lead Poisoning in which there had been absolutely no recovery; and (*d*) a case of Thrombosis of the Lateral Sinus which had been operated upon with success.—Mr. C. H. Hartt exhibited a case of Molluscum Contagiosum in a woman and a case of Bronzing of the Skin resembling Addison's Disease.—Mr. Mayo Collier read notes of a fatal case of Severe Punctured Wound of the Vertebral Artery.—Dr. Ernest Clarke showed an Eye Specimen embedded in Canada Balsam.—Dr. Scholefield exhibited Diagrams of a case of Symmetrical Scotoma.—Dr. Herschell demonstrated a new arrangement of Apparatus for Washing out the Stomach.—The President, Dr. Morgan Dockrell, Dr. Scholefield, Mr. Collier, Dr. P. C. Scott, Dr. Toogood, Mr. Hartt, and Mr. Parke joined in the discussions on the various cases.

Appointments.

Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ALCOCK, N. H., B.A., M.D. Dubl., has been appointed Assistant to the Professor of Physiology, Trinity College, Dublin.

ANDERSON, H. K., M.A., M.B., B.C. Camb., has been appointed to a Drosier Fellowship at Caius College, Cambridge.

ARNOLD, W., M.R.C.S., has been appointed Medical Officer for the Waltham Sanitary District of the Melton Mowbray Union.

BARCLAY SMITH, E., M.D., has been appointed Examiner in Human Anatomy to the University of Cambridge.

BARKER, C., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Haxey Sanitary District of the Gainsborough Union.

BROWN, WM., M.B., C.M. Glasg., has been appointed Medical Officer for the Saltcoats part of the parish of Stevenston.

BURKITT, E. J., M.B., C.M. Edin., has been appointed Medical Officer and Public Vaccinator for the district of Marske, Saltburn, and Upleatham of the Guisborough Union, vice H. G. C. Collett.

CARWARDINE, T., M.B., B.S. F.R.C.S., L.R.C.P. Lond., has been appointed an Assistant Surgeon to th Bristol Infirmary.

CHAMBERLAIN, W. W., M.B., C.M. Edin., has been appointed Medical Officer of Health by the Rawden Urban District Council.

DAWSON, R., M.B. Lond., M.R.C.S., has been appointed Honorary Consulting Physician to the Brighton, Hove, and Preston Dispensary.

DINGWALL, A., M.B., M.S., has been appointed Medical Officer of Health by the Presteigne Urban District Council.

DOBBIN, E. J., L.R.C.P., Lond., M.R.C.S., has been appointed an Assistant Medical Officer for the Infirmary and the St. John's-road Workhouse of the Parish of St. Mary, Islington, vice W. B. Stanford.

FULTON, W., M.B., C.M. Glasg., has been re-appointed Parochial Medical Officer for Stevenston.

GERVIS, HARCOURT, M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Paddington Green Children's Hospital, London.

GUY, J., M.B., M.S. Glasg., has been appointed an Assistant Medical Officer for the Workhouse of the Bradford Union.

HAMPTON, T., L.R.C.P. Lond., M.R.C.S., has been appointed Resident Medical Officer to the Royal Hospital for Diseases of the Chest, City-road, London.

HARPER, H. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 5 Sanitary District of the Stow Union.

KERR, JAMES, M.A., M.D Cantab., D.P.H., has been appointed Honorary Surgeon to the Bradford Eye and Ear Hospital, vice J. H. Bell appointed Consulting Surgeon.

MANWELL, J. B., B.A. Cantab., M.R.C.S., L.R.C.P., has been appointed House Physician to the Royal Hospital for Diseases of the Chest.

MOORHOUSE, J. E., M.D., C.M. Edin., has been appointed a Medical Officer for the Combination Poorhouse, Stirling.

PEVERLEY, WALTER A., M.B., B.S. Durh., has been appointed Junior House Surgeon to the Ingham Infirmary and South Shields and Westoe Dispensary.

PIM, F. E. DE B., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health by the Barrowford Urban District Council.

PROSSER, T. G., M.R.C.S., has been appointed Certifying Surgeon for Factories in the district of Monmouth, vice M. Poignand.

RAWLINGS, J. A., M.R.C.P. Edin., M.R.C.S., has been appointed a Consulting Physician to the Swansea Hospital.

RENTON, J. C., M.D. Edin., L.R.C.P., L.R.C.S. Edin., F.F.P.S. Glasg., has been appointed Surgeon to the Western Infirmary, Glasgow.

RICHARDSON, F. W., has been appointed Public Analyst for the Borough of Dewsbury, vice F. M. Rimmington.

SATCHELL, E. PERCY, M.B., B.S. Durh., has been appointed Surgical Casualty Officer to the General Hospital, Birmingham.

SAVAGE, W. G., L.R.C.P. Lond., M.R.C.S., has been appointed a Resident Medical Officer to the Sussex County Hospital, Brighton.

STOCKMAN, R., M.D. Edin., F.R.C.P. Edin., F.R.S.E., has been appointed a Physician to the Western Infirmary, Glasgow.

TRIPP, C. L. H., M.R.C.S., has been appointed a Medical Officer for the Dawlish District of the Newton Abbot Union.

WADE, R., M.R.C.S., has been appointed Medical Officer of Health by the Highbridge Urban District Council.

WATSON, D. C., M.B., C.M. Edin., has been appointed a non-resident Clinical Clerk to the Observation Ward, Royal Infirmary, Edinburgh.

WHITE, ARTHUR HAMILTON, L.R.C.P. and S. Irel., has been appointed Professor of Pathology at the Royal College of Surgeons in Ireland.

WILSON, G. R., M.B., C.M. Edin., has been appointed Medical Officer for the No. 1 Sanitary District of the Blackburn Union, vice T. W. Gregson.

WOODHOUSE, CECIL, B.A., M.B., B.C., has been appointed House Physician to the Paddington Green Children's Hospital, London.

WOODWARD, A., L.R.C.P. Lond., M.R.C.S., has been appointed a House Surgeon to the Metropolitan Hospital.

WILLIAMS, G. E., L.S.A., has been appointed a District Medical Officer for the Carnarvon Union.

WITHAM, H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Kirton Sanitary District of the Boston Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BLACKFRIARS PROVIDENT DISPENSARY, London.—Lady Medical Officer. Salary equal to £120. Apply to the Secretary, Miss Fowler, 45, Nelson-square, S.E.

BRADFORD ROYAL INFIRMARY.—Junior House Surgeon, unmarried. Salary £50 per annum, with board and residence.

BRISTOL GENERAL HOSPITAL.—House Surgeon for three years. Salary £120 per annum. Board, residence, &c., provided in the house.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, fire, gas, and washing. Applications to the Secretary, 3, Morley-street, Carmarthen.

CATERHAM ASYLUM, Caterham, Surrey.—Assistant Medical Officer. Salary £120, rising, at the discretion of the Committee, to £150, with board, lodging, attendance, and washing, subject to statutory deduction. Applications to the Chief Office of the Board, Norfolk-street, Strand, London.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn-road, Clinical Assistants, for six months at least. Fee 3 guineas.

CORPORATION OF CALCUTTA, Bengal, India.—Health Officer to the town of Calcutta for five years. Salary of not less than 1200 rupees and not more than 1500 rupees a month, with reasonable horse-allowance for out-door inspection, not exceeding 100 rupees a month. Applications to Mr. W. R. Macdonald, Secretary to the Corporation.

DURHAM COUNTY ASYLUM.—Third Assistant Medical Officer. Salary to commence at £100 per annum, with board, lodging, &c. Applications to Dr. Smith, Superintendent, Winterton, Ferryhill.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, London.—House Surgeon to Out-patients (non-resident) for six months. Salary 25 guineas.

HOSPITAL FOR WOMEN, Soho-square, London. — House Physician for six months. Salary £30 for that period.

HUDDERSFIELD INFIRMARY.—Junior Assistant House Surgeon. Salary £40 per annum, with board, lodging, and washing.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 30, Handel-street, Brunswick-square, W.C.—Lectureship of Physiology. Salary £200 a year.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, Soho-square, London.—Resident Medical Officer. An honorarium at the rate of £40 per annum, with board, residence, and laundry.

NEW HOSPITAL FOR WOMEN, 144, Euston-road, London.—Two fully qualified Medical Women as House Surgeons.

NORTH EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch.—House Physician for six months. Salary at the rate of £60 per annum. Applications to the Secretary, City Office, 27, Clement's-lane, Lombard-street, E.C.

OWENS COLLEGE, Manchester.—Junior Demonstrator in Anatomy. Salary £100, rising by yearly increments to £150.

PARISH OF ST. PANCRAS, London.—Second Assistant Medical Superintendent for the Infirmary, Dartmouth-park-hill, N., for one year. Salary at the rate of £75 per annum, and residential allowances. Applications to the Clerk to the Guardians, Vestry Hall, Pancras-road, N.W.

POPLAR UNION.—Assistant Medical Officer for the workhouse. Salary £100, with furnished apartments and rations in the workhouse, High-street, Poplar. Applications to the Clerk, Guardians' Offices, Upper North-street, Poplar, E.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—Assistant House Surgeon for six months. Board and lodging provided, and an honorarium of £10 given conditionally.

ROYAL VICTORIA HOSPITAL, Bournemouth.—House Surgeon. Salary £80 per annum, with board.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, Strand.—Clinical Assistants for six months.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King-street, Regent-street, London —Dentist.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Honorary Physician.

TUNBRIDGE WELLS EYE AND EAR HOSPITAL —Lady House Surgeon for twelve months. Salary £60, with board, lodging, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Queen's-road, Chelsea, S.W.—Assistant Physician to the Out-patients, for three years. Also Physician to the In-patients.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon for six months. Board, lodging, and washing in the hospital provided.

WESTERN GENERAL DISPENSARY, Marylebone-road, London.—Honorary Physician.

Births, Marriages, and Deaths.

BIRTHS.

BAKER.—On Nov. 6th, at Bedford-square, W.C., the wife of J. H. Baker, M.D., of a son.

BEEVOR.—On Nov. 8th, at Harley-street, W., the wife of Charles E. Beevor, M.D., F.R.C.P., of a daughter.

MACLENNAN.—On Nov. 6th, at Lerwick, Shetland, the wife of A. A. Maclennan, M.B. Aberd., of a daughter.

PARRY.—On Nov. 6th, at Youlgreave, Derbyshire, the wife of T. Wilson Parry, M.A., M.B. Cantab., of a daughter.

MARRIAGES.

ARTHUR—ROSS.—On Nov. 2nd, at Abbotsville, Cults, Aberdeen, Alexander T. Arthur, M.B. Aberd., to Margaret King, daughter of Rev. Adam Ross, M.A., Senior Minister of the Free Church, Rattray, Blairgowrie.

DOWNES—AKERS.—On Nov. 4th, at St. Peter's Church, East Blatchington, Seaford, by the Rev. A. J. Richardson, M.A., Godkin Downes, M.R.C.S., L.R.C.P., L.S.A., of Keston, 47, Beckenham-road, Beckenham, Kent, to Mary Ethelreda, widow of the late Charles Akers, Esq., 1, Clapton-common, N.E., and 11, Abchurch-lane, E.C., and youngest daughter of Henry Brown, Esq., and the late Mrs. Brown of Pendilo, 73, Cazenove-road, Stamford-hill, N. No cards.

O'BRIEN—SHAW.—On Sept. 28th, at St. David's Cathedral, Hobart, Tasmania, Philip Kennedy O'Brien, L.R.C.P. Lond., M.R.C.S. Eng., son of the late W. Creagh O'Brien, M.D., &c., of Maidstone, to Margaret Beryl Fenton, elder daughter of the late James Fenton Shaw, of Swansea, Tasmania.

RAW—STRONG.—On Nov. 6th, at the Pro-Cathedral, Liverpool, by the Rev. George Raw, M.A., brother of the bridegroom, Nathan Raw, M.D., B.S., F.R.C.S., of Liverpool, to Annie Louisa, fourth daughter of the late Charles East Strong, Solicitor, of Union-court, Old Broad-street, and Lordship-park, London.

DEATHS.

CARTER.—On Nov. 4th, at 45, Great Cumberland-place, W., suddenly, Hannah, the wife of Charles H. Carter, M.D.

HAZELL.—On Oct. 9th, at 1, Bouquet street, Cape Town, South Africa, Robert William Hazell, M.R.C.S., L.R.C.P., L.S.A., aged 49 years.

SCOTT.—On Nov. 8th, at Cramond House, Sandwich, John Scott, M.D., aged 63 years. Friends will kindly accept this intimation.

WETHERED.—On Nov. 4th, at Gratnar, near Moreton-Hampstead, Devon, Charles Wethered, M.R.C.S., Hon. Assoc. Royal Inst. Brit. Architects, late of West Grange, Stroud, Gloucestershire, aged 70 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (20th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (16th).—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Papers:—Dr. H. Rolleston: Spontaneous Fracture of Gall-stones.—Dr. J. Calvert: Spontaneous Fracture of Gall-stones.—Dr. L. Freyberger: (1) Intrapericardial Rupture of Aortic Aneurysm; (2) An Anomalous Heart.—Mr. C. G. Seligmann: Two Malformations in Fish. Card Specimens:—Mr. H. F. Waterhouse: Intussusception of the Vermiform Appendix.—Mr. P. Furnivall: Symmetrical Rodent Ulcer.—Dr. H. Rolleston: Rodent Ulcer from the Abdomen.—Mr. W. G. Spencer: A Squamous-celled Carcinoma of the Upper Jaw from a man aged twenty years.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Papers:—Mr. J. Reynolds Green: Pharmacy at some of the American Universities.—Mr. E. White and Mr. J. O. Braithwaite: Suppositories.

WEDNESDAY (17th).—ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Gt. George-street, Westminster, S.W.).—7.30 P.M. Paper:—Mr. R. H. Curtis: Results of a Comparision between the Sunshine Records obtained simultaneously from a Campbell-Stokes burning Recorder and from a Jordan Photographic Recorder.

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Meeting.

NORTH-WEST LONDON CLINICAL SOCIETY (North-West London Hospital).—8.30 P.M. Demonstration of Clinical Cases.

THURSDAY (18th).—HARVEIAN SOCIETY.—Mr. Doran: Ventral Hernia after Operation.—Mr. Roughton: Empyema of the Antrum of Highmore.

FRIDAY (19th).—EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish square, W.).—8.30 P.M. Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, ETC.

MONDAY (15th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Woakes: Nasal Neurosis.

TUESDAY (16th).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: General Paralysis.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Neoplasms.

HOSPITAL FOR NERVOUS DISEASES (73, Welbeck-street).—4.30 P.M. Dr. T. D. Savill: Cases of Paraplegia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Sir F. Semon: On the Diagnostic Significance of Laryngeal Abductor Paralysis.

WEDNESDAY (17th).—LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Air.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Bias: Hæmoptysis, its Causes and Treatment.

EVELINA HOSPITAL (Southwark-bridge-road, S.E.).—4.30 P.M. Mr. F. S. Eve: Hernia in Infants and Young Children and its Treatment. (Post-Graduate Course)

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. C. B. Keetley; Fractures into Joints.

THURSDAY (18th).—LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. Patrick Manson: Recent Advances in our Knowledge of Malaria.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Barlow.

FRIDAY (19th).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Typhoid Fever and Diphtheria.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 11th, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov. 5	30·29	N.E.	...	49	48	42	41	43	Overcast
,, 6	30·31	N.E.	...	59	51	43	46	47	Overcast
,, 7	30·33	N.E.	0·05	56	51	44	44	45	Cloudy
,, 8	30·12	S.E.	0·14	57	56	45	50	51	Raining
,, 9	30·27	S.E.	0·01	57	57	50	54	55	Foggy
,, 10	30·24	E.	...	67	52	48	47	49	Cloudy
,, 11	30·20	W.	...	41	40	37	37	38	Foggy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

WANTED A REMEDY IN SEVERE LUMBAGO.

L.R.C.P. writes that he will be grateful to his brother practitioners for advice with a view to relief from severe lumbago of four months' standing. His age is thirty-nine years, and he has tried colchicum, potassium, salicylates, guaiacum, sodium, and sulphur and hot-water bags and mustard leaves. He has tried all kind of aperients. He wears flannel and eats little meat. He cannot take iodide of potassium though he is gouty.

M. K. Q. C. P. I.—It would be wiser to make a change.

AN ORIGINAL REMEDY FOR HEADACHE IN TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—On the evening of Oct. 19th I was called to visit a Roumanian boy, six years old, suffering from typhoid fever. I found him *in extremis*, almost pulseless. The child's head was completely wrapped over with a large white sheet, and as I looked at it this enormous white envelope seemed to be on the move. Whilst I was surveying this covering there crept from under it a small frog which quietly sat over the child's left eye. It seemed quite content. I immediately called the mother's attention to it, and requested her to take the beast away, thinking that it had crept there as an intruder. "Oh, no!" said the old lady, "a doctor recommended that a lot of them should be kept to the head to keep it cool." Seeing the head covering still on the move I raised it for curiosity, and in a second out jumped about twenty other frogs, and away they hopped in all directions. I have often heard the expression "as cold as a frog," but this was the first time I had seen a frog applied as a head-cooler.

I am, Sirs, yours faithfully,

A. IRWIN BOLTON, M.B. Dub.

Constanta, Roumania, Oct. 26th, 1897.

"THE CHRISTIAN."

THIS stupid book has received very severe handling in the press, but to our mind no paper has treated it more fitly than our bright little contemporary, the *Guyoscope*. The reviewer in the *Guyoscope* made no parade of wide literary reading; he did not discuss with the author the ethics of the sensational novel or the trend of modern religious thought; he simply "rotted" Mr. Hall Caine for having written absurdly, mendaciously, and (which is worse) unfairly about hospitals, house-surgeons, and nurses. The *Guyoscope* returns to the attack in the current issue, and in view of the persistent manner in which "The Christian" has been puffed we see nothing malevolent in a little persistence on the other side. In a short article called "Hospital Hoppings," the scene of the famous ball at St. Bartimœus is happily ridiculed. At this ball, it will be remembered, the President of the College of Surgeons, a fashionable lordling, the students and the nurses abandoned themselves to the dance together. The students pulled down the nurses' hair, and a gentleman in a Government Office accompanied the heroine (a probationer) back to her hospital in the early dawn. To this restrained and accurate picture of hospital life the *Guyoscope* adds a touch or two of local colour deserving of quotation:—

"HOSPITAL HOPPINGS."

"Last Tuesday the first students' ball of the season took place in the operating theatre of St. Bartimœus' Hospital, ... The arrangements generally reflected great credit on the members of the dance committee, who, by the way, were distinguished by wearing Murphy's buttonholes in their coats. ..... The floor had been carefully scrubbed with soft soap and lysol, and would have made an admirable dancing surface had there been room to dance. As it was the majority of the guests preferred to take advantage of the magnificent promenade afforded by the spacious corridors of the hospital. ..... The proceedings opened with a solo clog-dance on the operating table by Sir William McCormac, who was attired in mackintosh and sterilised overall. Next, in response to vociferous appeals, the matron of the hospital obliged with a serpentine dance, all first year's students having been previously anæsthetised. After these two superb displays of Terpsichorean skill, a general move was made for the supper room, a delightfully airy apartment, used on more prosaic occasions as a dissecting-room. Boyish students might be seen pledging their laughing-eyed partners in foaming beakers of hyd. perchlor. (1 in 2000, 1897), while their staider elders fortified themselves with modest injections of brandy and strychnine. We can personally testify to the exhilarating qualities of the Formalin Cup, which was much appreciated by those privileged to partake. If a criticism can be permitted us, we venture to think that the conduct of the surgical instrument keeper in boiling the spoons between every course was somewhat unnecessary and certainly inconvenient."

We think this excellent fooling, and ridicule is what pretentious rubbish like "The Christian" wants.

E. M. G. is thanked for the communication. We doubt if public exposure does much good, but we are always glad to learn of these people that we may be prepared to advise our correspondents concerning them.

IMMOBILITY IN FRACTURE OF THE LOWER THIRD OF THE FEMUR.

To the Editors of THE LANCET.

SIRS,—Some years ago when resident pupil at a general infirmary I, in the absence of the house surgeon, admitted a man who had sustained a compound fracture of the left tibia and a simple fracture of the right femur in its lower third. The lower fragment was displaced upward and backward, requiring some force to reduce the deformity. When the visiting surgeon and the house surgeon came I described the injuries. They both declared that there was no fracture of the femur and desired me to examine it again. I then failed to get any mobility or crepitus. I was of course gravely reprimanded for having committed such an error. In a few days the man died, and to justify myself I took the senior surgeon to the mortuary and in his presence exposed the bone. There was the fracture just above the condyles. The old gentleman observed: "Ah! just so, sir, very satisfactory, but at any rate you had no business to contradict me." The other night I was called to the station to see a man who had been severely tumbled about amongst some goods trucks. I examined him carefully, as well as one could in a dark shed by the light of railway lamps, looking out for a fractured femur, but could not get evidence of it. He was sent to the neighbouring hospital and after being placed in bed and relaxation of his muscles had taken place a fracture of the lower third of the femur was easily made out. In the first case, had the patient not died he would have kept his bed for six weeks or so, thus allowing time for the consolidation of the fractured femur while the opposite tibia was receiving attention, and I should have remained under the stigma of a gross error in diagnosis.—I am, Sirs, yours faithfully,

J. G. CARRUTHERS, M.R.C.P. Edin., &c.,

Selhurst-road, S.E., Nov. 9th, 1897. Divisional Surgeon.

A NEW FLOWER POT COVER AND LIFTER.

Mr. H. ADEANE, of 51, Edbrooke-road, St. Peter's-park, W., has introduced a new ornamental flower-pot cover, lifter, drainer, and vase guard which will be a convenience to those who keep flowers indoors for decorative purposes. The usual practice is to place the coarse earthenware flower-pot inside an ornamental vase an inch deeper than the pot, so that the latter is concealed, a system which renders cleaning difficult, because there is seldom room for the fingers to pass between the pot and the vase. The consequence is that decaying vegetable matter accumulates inside the vase, and is apt to become offensive and unwholesome through being kept damp by the water used for the plant. Mr. Adeane's invention is intended to remedy this defect by enabling the flower-pots to be easily kept clean.

A Country Cousin.—The Jubilee medals are awarded for no "special service." They are a Royal recognition of general service, personal or public, rendered to the Crown. The Victoria Cross is awarded to persons displaying conspicuous bravery ("For Valour") on the field of battle. It is obvious that these are seldom civilians, but one of the awards announced in this weeks' *Gazette* conferred a decoration on Lord Fincastle, a soldier whose presence, however, on the scenes of war was due to other than military reasons.

"A POINT IN THE WORKING OF THE 'INFECTIOUS DISEASES NOTIFICATION ACT.'"

To the Editors of THE LANCET.

SIRS,—Fearing my letter of Oct. 4th (which you so kindly answered in THE LANCET of Oct. 23rd) was not very clearly expressed, I am again troubling you to answer "Yes" or "No" to the following question:—Has the port medical officer any jurisdiction over a ship upon which after it has been declared by the sanitary inspector "all well" on board and the captain and crew have been ashore infectious disease breaks out, we will say for argument, twenty-four hours after? The nearest general practitioner is called in and removes the patient to the hospital. Does the general pratitioner act rightly, or should he send a report to the medical officer of the port or the medical officer of health?

I am, Sirs, yours faithfully,

Fowey, Cornwall, Oct. 29th, 1897. W. H. BOGER.

*** Our correspondent speaks of a question, but there appear to be two questions. 1. The port medical officer has jurisdiction over every vessel within his district, and over any case of infectious disease occurring on any such vessel at any time. (See Duties of Port Medical Officers under Order of the Local Government Board, July, 1883). 2. If notification has been adopted both by the port sanitary authority and by the district council adjacent to the port the occurrence of a case of infectious disease on a ship must be notified to the port medical officer of health, so that he may disinfect the ship, &c., and when the case is removed ashore a notification must be sent to the authority on shore.—ED. L.

POND'S ARCH SUPPORT FOR FLAT-FOOT.

THE natural arch of the foot is supported in part by the ligaments of the sole and in part by muscles and tendons. When these structures are no longer able to hold up the arch flat-foot is produced. When it is possible to restore the healthy tone of these natural supports of the arch so that they may take up again the function which they have resigned no artificial support is desirable; but in very many cases this is not possible, and then it is necessary to provide a mechanical support for the arch to relieve the pain and discomfort to which the flat-foot gives rise. We have examined and made use of Pond's arch support which was sent for our inspection. It consists of a "sock" containing a piece of steel fitted to the under-surface of the whole arch of the foot. It affords a wide-spread comfortable support, and is very suitable for the cases we have indicated above. It may be obtained from Mr. J. Pond, 23, Castle Meadow, Norwich; or from the London Shoe Company, 123, Queen Victoria-street, E.C.

Dr. T. Granville Hockridge.—We have only one side of the case before us. From the facts submitted to us we think it would have been polite if B had asked A to be present at the post-mortem examination, but we do not think A should take offence at the omission.

A PHYSICAL SIGN IN TYPHOID FEVER.

To the Editors of THE LANCET.

SIRS,—I have noticed in cases of typhoid fever a yellow discolouration of the palms of the hands which is usually noticeable in the second week and gets darker till the crisis, then gradually disappears as the temperature regains the normal. Is this a definite symptom? It is not mentioned in books. The Maidstone epidemic is a good opportunity for confirming this if it should be the case.

I am, Sirs, yours faithfully,

Nov. 3rd, 1897. J. W. S.

MENTAL DISTURBANCE AFTER GYNÆCOLOGICAL OPERATIONS.

THE American *Medical and Surgical Reporter* publishes a paper in which Dr. John A. Lyons gives an account of two cases where plastic operations were followed by mental disturbance. The first patient was thirty-four years of age and the mother of three children, the last one being two and a half years old. She seemed very much above the average in intelligence, of exceedingly good physique, and not naturally of a nervous temperament. She suffered from leucorrhœa and dysmenorrhœa; the uterus was enlarged, "evidently sub-involuted and endometric, because of an exceedingly large bilateral laceration of the cervix, the os admitting an index finger with but little force, but with considerable pain." The operation consisted in thorough curettage of the uterine canal and trachelorrhaphy. The uterus was well packed with iodoform gauze, which was removed at the end of forty-eight hours. The sutures were removed from the cervix eight days later, as perfect primary union had taken place. After the operation her mental faculties were impaired, she was often oblivious of her surroundings, and her children disturbed her so much that they had not unfrequently to be removed from her presence. This state of affairs continued for about four months, when she was seized with acute mania in consequence of the death of a brother, but within two months from this date she entirely recovered, not a trace of dementia being left. The second patient was thirty-one years of age; she had two children, aged ten and twelve years respectively, and had not been pregnant since the birth ten years previously. She suffered from a complete perineal laceration extending up the rectum almost to the vaginal vault, so that she had incontinence of gas and fæces, but a plastic operation was performed with such success that she obtained perfect control of the rectum. In less than two months, however, her mind was completely unbalanced; she became morose, gloomy, indifferent to her family, and sleepless. "When upon the street she imagined all men she happened to see were following her with evil intent, so that it became necessary to have an escort with her while taking her morning and evening walks." After having continued some five months these mental symptoms disappeared and the patient has since been delivered of an unusually large child without experiencing any perineal injury.

WHAT IS THE MEDICAL MAN TO DO?

To the Editors of THE LANCET.

SIRS,—I should esteem it a favour if you would give me your opinion as to the duty of a medical man under the following circumstances:—A young man consulted me at my house and upon examination I found him to be desquamating freely; this together with his history led me to diagnose scarlet fever, and I ordered the patient home and notified accordingly. I have since ascertained that I have infringed the 126th section of the Public Health Act and thereby made myself liable to a penalty of £5. Now, as general practitioners must be frequently doing the same thing—viz., "exposing or causing to be exposed, a person suffering from infectious disease" you will be conferring a favour upon others besides myself by advising us how to act.

I am, Sirs, yours faithfully,

Oct. 8th, 1897. INQUIRER.

WANTED, A HOME FOR A FEMALE DIPSOMANIAC.

To the Editors of THE LANCET.

SIRS,—Can any of your readers refer me through your columns to an institution or home for female dipsomaniacs charging not more than 30s. weekly inclusive?—I am, Sirs, yours faithfully,

Nov. 8th, 1897. M.R.C.S.

During the week marked copies of the following newspapers have been received: *Hull Daily News, Sun, Stirling Observer, Salisbury Journal, Yorkshire Herald, Newcastle Journal, Times of India, Pioneer Mail, New York Herald, Wiltshire County Mirror, Evesham Journal, Thanet Guardian, Architect, Liverpool Daily Post, Cambs Times, Manchester Guardian, Kidderminster Shuttle, Lincolnshire Echo, Grimsby Mail, Builder, Leeds Mercury, Scotsman, Hereford Times, Elgin Courant, Luton Reporter, Sussex Express, Walsall Advertiser, Bristol Mercury, Dundee Advertiser, North British Daily Mail, Bradford Observer, Somerset County Herald, Birmingham Gazette, Isle of Wight Herald, Bridgwater Independent, Yorkshire Post, Hinckley Times, East Anglian Times, Eastern Press, Burnley Express, Brighton Gazette, Sanitary Record, Wolverhampton Chronicle, Bath Chronicle, Scottish Guardian, City Press, Reading Mercury, Hertfordshire Mercury, Lincolnshire Echo, Mining Journal, Local Government Chronicle, Worthing Gazette, Weekly Free Press and Aberdeen Herald, Lincoln Gazette, Surrey Advertiser, People's Journal, Inverness Courier, Perth Constitutional, La Gazette de France, Leicester Post, Loughborough Monitor, Banffshire Journal, Liverpool Courier, Family Herald and Weekly Star (Montreal), West Middlesex Herald, North Wilts Guardian, Manx Sun, East Grinstead Observer, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. J. M. Atkinson, Hong Kong; Messrs. Arnold and Sons, Lond.; Mr. F. C. Abbott, Lond.;

B.—Dr. J. M. Barbour, Lond.; Bradford Infirmary, Secretary of; Blackfriars Provident Dispensary, Secretary of; Dr. J. E. Beggs, Hither Green; Mons. O. Berthier, Paris; Mrs. Bennett, Lond.; Mrs. L. A. Brooks, Grays; Messrs. Burgoyne, Burbidges, and Co., Lond.; Mr. E. Brown, Essex; Mr. W. M. Beaumont, Bath; Dr. A. S. Barling, Lancaster; Mr. C. Birchall, Liverpool.

C.—Mr. E. J. Carter, Tunbridge Wells; Cortland Wagon Co., Lond.; Clinical, Lond.; *Canada Medical Record*, Montreal, Editor of; Messrs. J. Cleave, Crediton; Cumberland Infirmary, Carlisle, Secretary of; Messrs. J. and A. Churchill, Lond; Dr. H. Campbell, Lond.; Chelsea Hospital for Women, Secretary of; Central London Throat Hospital, Secretary of.

D.—Dr. T. B. Dunn, Lond.; Dr. R. Daniel, Chatteris; Dr. D. Downie, Glasgow; Mr. A. Duke, Cheltenham; Surgeon-Lt.-Col. S. L. Dobie, Dunain Park; Durham County Asylum, Winterton; Mr. W. G. Dickinson, Lond.

E.—Mr. McAdam Eccles, Lond.; Messrs. Eason and Son, Dublin.

F.—Mr. N. Hay Forbes, Tunbridge Wells; *Il Farmacista Italiano et il Medico Practico*, Naples; Formalin Hygiene Co., Lond.; Mr. T. Webb Fowler, Coventry; Mr. M. Francis, Ramsgate.

G.—Dr. L. G. Guthrie, Lond.; Messrs. Grimshaw and Baxter, Lond.

H.—Dr. D. G. Hurter, Liverpool; Messrs. Hertz and Collingwood, Lond.; Mr. J. Harrison, North Frodingham; Mr. H. Hess, Lond.; Harveian Society, Lond., Secretary of; Dr. T. G. Hockridge, Lond.; Mr. F. S. D. Hegg, Tillingham; Messrs. Harding and Bennett, Leicester; Mr. J. Heywood, Manchester.

J.—Jenner Institution for Calf Lymph, Lond., Secretary of; Surgeon A. H. Jeremy, H.M.S. *Rambler*, Bermudas; Mr. Jones, Ruabon.

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